

# *Pathways* to Managing Cancer *in the* Workplace



**National  
Business  
Group on  
Health**

# *Pathways to Managing Cancer in the Workplace*

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# Pathways to Managing Cancer *in the* Workplace

## Executive Summary

As the U.S. workforce ages, more working-age adults are being diagnosed with cancer. At the same time, as early detection and treatment methods for some cancers have improved, the number of people surviving cancer has increased, and for many individuals cancer has become more like a chronic disease. This is good news for cancer patients and their families. It also bodes well for employers, since increased survivorship means they are able to retain valuable employees in the workplace for longer periods of time.

However, this scenario has its challenges, too. Increased survivorship means that both employers and employees must bear the cost of cancer treatment for a greater length of time. Since the expense of treating cancer is often very high, this may present both parties with serious financial costs. A recent study showed that in a typical commercial population only 0.68% of members have claims for cancer in a year. Yet these claims account for about 10% of all medical costs.<sup>1</sup>

Cancer also affects those close to the patient, such as family members and caregivers, who will be challenged to deal with sadness and feelings of helplessness when a loved one is seriously ill. This may have consequences for the workplace, too, since seven in ten caregivers report making changes such as cutting back on their hours, changing jobs, stopping work entirely or taking a leave of absence as a result of their caregiver role.<sup>2</sup>

This guide provides employers with practical ways to support employees

### *What is cancer?*

Cancer is an umbrella term for about 100 different diseases, all characterized by uncontrolled growth of cells in the human body. These cells have the ability to migrate from the original site, reproduce and spread throughout the organism.<sup>3</sup>

Although the cause of most cancers remains unknown, the American Cancer Society claims that cancer may have behavioral, genetic and environmental factors, or a combination of these factors related to its origins.<sup>4</sup> For example, behaviors such as tobacco and alcohol use have been linked to cancers of the lung, mouth, throat, bladder and kidneys.<sup>4</sup> Genetic factors such as predispositions or the appearance of cancer in family histories are involved in one of every 20 cases of cancer.<sup>4</sup> Environmental factors, such as exposure to various chemicals, carcinogens or radiation, have been linked to various cancers.<sup>4</sup>

who have cancer as well as those who are taking care of family members with the disease. The guide will assist employers as they implement a full spectrum of benefits and programs directed to do the following:

- Prevent cancer or reduce its effects;
- Encourage screenings and early detection;
- Ensure that patients have access to information, decision-aids and supports to help them navigate the complex health care system;
- Contract with providers that offer the most appropriate, effective evidence-based care;
- Assist with care coordination and comprehensive services;
- Encourage coordination among disability plans, employee assistance programs, health plans, behavioral health plans, pharmacy, human resources, health promotion and condition management;
- Implement cost and utilization management strategies; and
- Support employees with cancer who are returning to work, including those who may need intermittent treatment and be in and out of the workplace.

The guide is divided into three parts: The Business Case; Four Major Types of Cancer; and Strategies for Managing Cancer in the Workplace.



# Pathways to Managing Cancer *in the* Workplace

## **Part I:** The Business Case

According to a recent study, spending on cancer care increased by \$63 billion from 1990 to 2008, attributed partly to the rising costs of new drugs and treatments, and adding to the

burden on employers, employees and society as a whole.<sup>5</sup> Another recent study showed that in a typical commercial population, only 0.68% of members have claims for cancer in a year, but these claims account for about 10% of all medical costs.<sup>1</sup> Although employers bear much of the cost of cancer care, employees often have large cost-sharing responsibilities as well. While the median out-of-pocket treatment cost for patients

A recent study showed that in a typical commercial population, only 0.68% of members have claims for cancer in a year. Yet these claims account for about 10% of all medical costs.<sup>1</sup>

with breast cancer was \$2,616 (2006 dollars), 5% of privately insured breast cancer patients had total out-of-pocket costs that exceeded \$31,264.<sup>6</sup>

### Cost of Cancer

#### ***Overall Direct Costs***

Estimates of cancer treatment costs vary greatly depending on the source and the methodology used to calculate these costs. A 2010 study found that the medical costs of cancer during 2001-2005 added up to \$48.1 billion, up from \$24.7 billion in 1987 (expressed in 2007 dollars).<sup>7</sup> While this shows that the medical cost of cancer has almost doubled in the past 20 years, it's important to note that the increase in cancer costs was consistent with the overall increase in medical expenditures generally.<sup>7</sup>

Because the previous study only includes data up to 2005, it does not take into account the last five or six years when many biologics entered the market. Due to the influx of high-cost specialty pharmaceuticals during this period, cancer treatment costs may have risen more substantially than they did prior to that point.

### ***Settings in Which Cancer Treatment Costs Occur: Inpatient vs. Outpatient***

- Over the past 20 years, there has been a decrease in cancer treatment in the inpatient setting, and an increase in the outpatient setting.<sup>7</sup>
- Among all payers, costs from inpatient admissions for cancer care fell from 64.4% of total cancer costs in 1987 to 27.5% during 2001-2005.<sup>7</sup> This can be explained in part by a decrease in the percentage of cancer patients admitted to the hospital and a decrease in the average length of the hospital stay.
- The decrease in cancer-related inpatient expenditures, however, has been accompanied by an increase in outpatient expenditures and, particularly in the last five years, an increase in prescription drug expenditures.<sup>7</sup>

### ***Costs During Different Stages of Treatment***

- Studies show that the largest portion of cancer treatment costs occur in the year after diagnosis.<sup>8</sup>
- For breast, lung, colorectal and prostate cancer, trends in Medicare payments show that expenses from hospitalizations during the initial cancer surgery period and the initial year of care accounted for the largest portion of payments.<sup>8</sup>
- Other studies indicate that another large portion of cancer care costs occur in the months before death.<sup>7</sup>

Expenditures for cancer can vary by cancer site within the body, reflecting the disease prevalence, treatment patterns and costs for different types of care.<sup>10</sup> Figure 1, below, provides estimates for the national expenditures for cancer care based on common cancer sites, according to the most recent data available.

### **Workplace Burden**

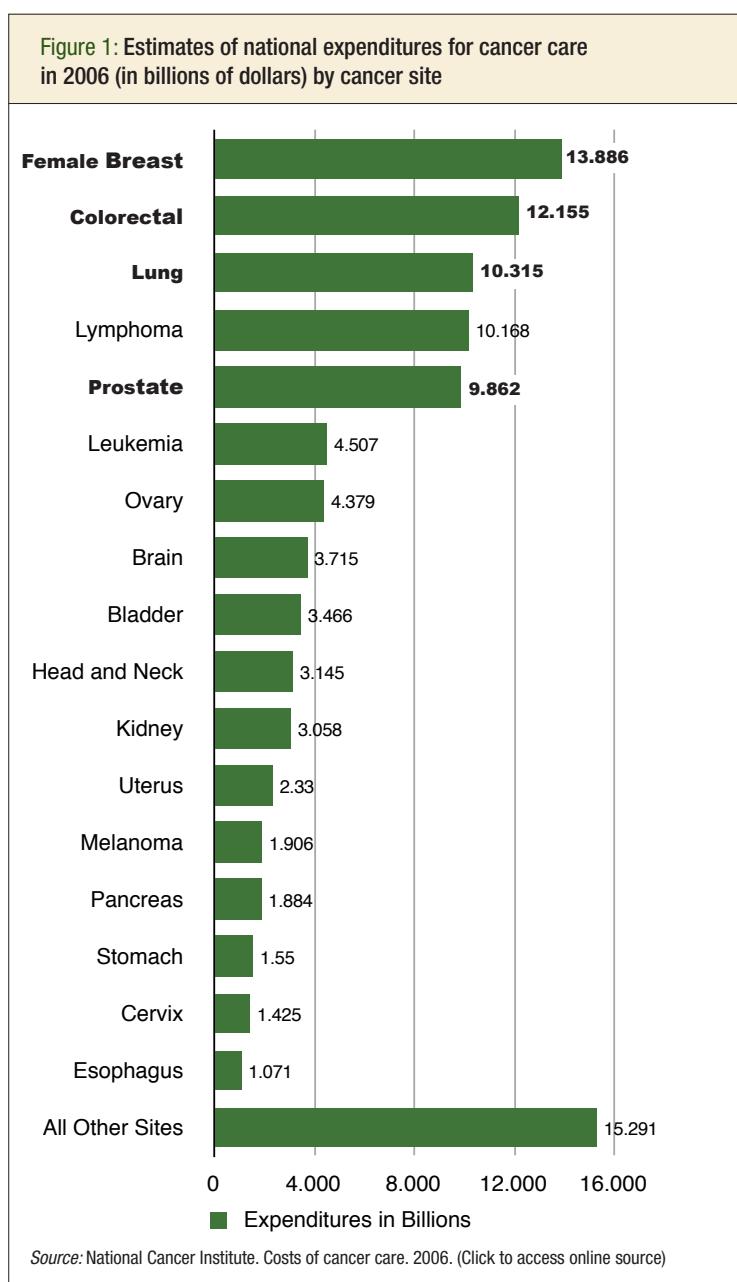
Employees with cancer often face enormous physical and emotional challenges, not to mention a large financial burden. This frequently results in high rates of absenteeism, lost productivity and disability. What's more, cancer also takes a toll on those close to the patient such as family and friends, who are often the caregivers.

- The majority of family caregivers (79%) are providing care to someone over the age of 50.<sup>11</sup>

### ***Cost of Cancer in the U.S.***

The National Institutes of Health estimates that the annual overall costs of cancer in 2008 in the U.S. were as follows:<sup>9</sup>

- Total cost: \$228.1 billion
- Direct medical costs (total of all health expenditures): \$93.2 billion
- Indirect morbidity costs (cost of lost productivity due to illness): \$18.8 billion
- Indirect mortality costs (cost of lost productivity due to premature death): \$116.1 billion



- Nearly 60% of those caring for an adult over the age of 50 are working.<sup>11</sup>
- The average age of the caregiver for a person over the age of 50 is 47.<sup>11</sup>

Employers need to recognize the potential workplace issues for employees who care for someone with cancer. Seven in 10 caregivers report making changes such as cutting back on their hours, getting a different job, stopping work entirely or taking a leave of absence as a result of their caregiver role.<sup>2</sup> Caregivers also have been found to experience more anxiety and depression than people who are not caring for patients with cancer.<sup>12</sup> When asked to rate their emotional stress on a 5-point scale, 63% of caregivers put their stress level at 4 or 5.<sup>11</sup>

#### Absenteeism and Presenteeism

Patients with cancer often have high rates of absenteeism as a result of all the medical elements involved in the course of treatment such as chemotherapy and lab tests. Treatment can involve side effects that compromise a patient's ability to perform normal day-to-day duties. Hospitalizations are sometimes necessary and recovery can be slow, especially for older employees and those with serious co-morbidities.

Even when employees with cancer are at work, they may not be as productive as they would be under normal circumstances. According to a 2008 study, breast cancer survivors reported a

mean reduction of productivity of 3.1% below the healthy worker norm. This amounts to a loss of 2.48 hours of work over two weeks of full-time employment.<sup>13</sup>

Reduced productivity at work may result from challenging issues often associated with cancer, such as the following:

- Treatment side effects, including nausea or fatigue;
- Difficulties with memory and concentration (a temporary condition known as "chemo brain");<sup>14, 15</sup>

- Depression;
- Fear of death;
- Interruption of life plans;
- Changes in body image and self-esteem;
- Changes in social role and lifestyle;
- Money and legal concerns; and
- Fears concerning the impact on families.

*“Cancer has become the price of modern life,’ an epidemiologist recently wrote: in the U.S., about half of all men and about a third of women will contract cancer in their lifetime; cancer now ranks just below heart disease as a cause of death in the U.S.”*

*-Steven Shapin, Cancer World: The Making of a Modern Disease  
The New Yorker, November 2010*

### Short-Term Disability (STD) and Long-Term Disability (LTD)

According to a recent study, workplace absenteeism and disability are common for people with breast cancer in the first six to twelve months after diagnosis. Absenteeism was 70% higher and STD was approximately 12-fold higher among breast cancer patients in the first year, as compared to individuals without breast cancer.<sup>16</sup>

Cancer is the leading cause of LTD for the ninth consecutive year, according to Unum, a disability management company.<sup>17</sup>

- In 2009, cancer claims were 11.8% of LTD claims.
- As treatments for cancer have become more effective, return-to-work rates for people who are diagnosed with cancer have improved substantially.
- Of people with cancer, 60% to 85% ultimately return to work.<sup>18</sup>

Table 1 shows the increase in return-to-work rates for the three most prevalent types of cancer.<sup>17</sup>

### Reduced Productivity of the Employee as Caregiver

Caring for a friend or family member with cancer can be emotionally and physically demanding. Furthermore, there may be a financial burden to the caregiver. These factors may lead to decreased productivity and lost earnings.

- Among working caregivers, 52% of women and 34% of men experienced workday interruptions as a result of caregiving.<sup>11</sup>
- In 2000, the typical working family caregiver lost \$109 per day in wages and health benefits due to the need to provide full-time care at home.<sup>19</sup>

**Table 1: Percentage of Employees Returning to Work After a Cancer Diagnosis**

| Type of Cancer  | 2001 | 2008 |
|-----------------|------|------|
| Breast Cancer   | 47%  | 53%  |
| Prostate Cancer | 28%  | 34%  |
| Colon Cancer    | 23%  | 33%  |

*Source: Unum. Cancer, pregnancy lead causes of Unum's disability claims: related education and outreach offer support for individuals and employers. (Click to access online source)*

Employers also bear some of the costs for employees who are full-time caregivers.

- The average cost to employers for all full-time employed caregivers is \$2,110 per employee.<sup>11</sup>
- The total estimated lost productivity costs to employers for all full-time employed caregivers is \$33.6 billion.<sup>11</sup>

These total lost productivity cost estimates include the following:<sup>11</sup>

- Replacing employees;
- Absenteeism;
- Partial absenteeism;
- Workday interruptions;
- Eldercare crisis;
- Unpaid leave; and
- Employees moving from full-time to part-time.

Caregivers are often depressed, and they may feel angry or frustrated when someone they love has cancer. They are sometimes stressed, too, as a result of the increased number of responsibilities they must bear at home.<sup>12, 20</sup> Just as patients need to be evaluated for anxiety and depression throughout their treatment and, if necessary, seek some form of support, so, too, should caregivers find ways to take care of themselves.

- When asked to rate their emotional stress on a 5-point scale, 63% of caregivers put their stress at a 4 or 5.<sup>11</sup>
- Family caregivers who provide care 36 or more hours per week are more likely than non-caregivers to experience symptoms of depression or anxiety. When caring for a parent, the rate is twice as high; when caring for a spouse, the rate is six times as high.<sup>21</sup>

In addition to behavioral health issues, caregivers may experience physical health problems as a result of their role. Heart disease, high blood pressure, sleep problems, increased risk of infections and fatigue have been linked with caregiving.<sup>12</sup> Caregivers who experience social and emotional burdens related to caregiving are at risk for problematic alcohol use.<sup>22</sup> An 8% differential in increased health care costs exists between caregiver and non-caregiver employees.<sup>23</sup>

## Cancer Treatment

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### Increase in Cancer Survivorship

Advances in cancer treatment have led to a marked increase in cancer survivorship, especially if cancer is detected early. The five-year relative survival rate for all cancers diagnosed between 1996-2004 was 66%, an increase from 50% in the 1975-1977 period.<sup>24</sup> Many current cancer treatments have the ability to prolong life, and more people are living with cancer.<sup>25</sup>

## Cancer Treatment Factors

Many factors determine the type of treatment a doctor will recommend. As a result, treatment recommendations are highly individualized. These factors include:

- Type of cancer;<sup>26</sup>
- Stage of cancer (I-IV, based on progression);<sup>26</sup>
- Organs affected by the cancer;<sup>26</sup>
- Patient's health status; and<sup>27</sup>
- Patient's medical history.<sup>27</sup>

## Cancer Treatment Challenges

Cancer treatment is complicated and the choices are often difficult. This is partly because an increasing number of new cancer therapies are reaching the market for which there is a lack of ample data on outcomes and cost-effectiveness.<sup>28</sup> As a result, oncologists sometimes order expensive treatments that have varying degrees of benefit.<sup>28</sup>

### ***Use of Aggressive Treatment***

Decisions about cancer treatment are laden with emotion. Patients may demand aggressive treatment that may do more harm than good. For their part, doctors may prescribe a particular treatment even when they suspect patients may not benefit from it.<sup>28</sup>

- Aggressive treatment may compromise patient quality of life without benefit, and aggressive treatment drives up costs.
- It is not uncommon for patients to receive chemotherapy near death, even if their cancer was unresponsive to chemotherapy.
- A study found that 20% of Medicare patients with metastatic cancer started a new chemotherapy regimen within two weeks of death.<sup>28</sup>

## Making Better Choices in Treating Cancer

Efforts are underway to improve the ability of patients and oncologists to make better decisions in treating cancer. One approach is using comparative effectiveness research (CER), which is defined as the direct comparison of existing health care interventions to determine which work best for which patients and which pose the greatest benefits and harms.

### ***What is CER?***

CER addresses treatment challenges by doing the following:

- Identifying which treatment or treatment combinations are most successful for particular conditions;
- Eliminating waste that results from patients receiving less effective treatment for their particular condition;
- Helping patients know what treatments may help them while maintaining a reasonable quality of life; and
- Informing coverage decisions.

## Types of Cancer Treatments

There are many types of cancer treatment, but the three most common are chemotherapy, radiation therapy and surgery.<sup>26</sup> Though newer and less frequently used, a fourth treatment, biological therapy (commonly referred to as specialty pharmaceuticals), has gained a great deal of attention in recent years. Over the course of their illness, patients often receive more than one kind of treatment. See Table 2 for details about these four treatments, including their definition, method of administration, prevalence of use and cost.

Table 2: The Four Major Cancer Treatments

| Treatment                | Definition   | Method of Administration  | Prevalence of Use  | Cost  |
|--------------------------|--|---|--|---|
| <b>Chemotherapy</b>      | The use of drugs to destroy cancer cells. <sup>27</sup><br><br>Used to control or cure cancer or ease cancer symptoms. <sup>27</sup>   | Chemotherapy can be administered in many ways, including: <sup>27</sup> <ul style="list-style-type: none"> <li>• Injection</li> <li>• Intra-arterial (into the patient's artery)</li> <li>• Intraperitoneal (into the patient's peritoneal cavity)</li> <li>• Intravenously (into the patient's vein)</li> <li>• Topically</li> <li>• Orally</li> </ul><br>Patients may receive chemotherapy at: <sup>27</sup> <ul style="list-style-type: none"> <li>• A hospital</li> <li>• A doctor's office</li> <li>• A clinic</li> <li>• A cancer treatment center</li> <li>• An infusion center</li> <li>• Home</li> </ul> | About 22% of patients with cancer will receive chemotherapy in a year. <sup>29</sup> | The cost of chemotherapy across all cancer patients averages approximately \$20,000 per patient annually. <sup>29</sup><br><br>The cost varies based on: <ul style="list-style-type: none"> <li>• The type of cancer;</li> <li>• The selection of drug therapies;</li> <li>• The number of lines of therapy; and</li> <li>• The duration of each round of therapy.</li> </ul><br>For example, the per member per month (PMPM) cost of chemotherapy for colorectal cancer is approximately twice that of chemotherapy for breast cancer. <sup>29</sup> |
| <b>Radiation Therapy</b> | The use of high doses of radiation to kill or damage cancer cells and stop them from spreading. <sup>30</sup><br><br>Used to control or cure cancer or ease cancer symptoms. <sup>31</sup> | Radiation therapy can be: <sup>30</sup> <ul style="list-style-type: none"> <li>• External beam (when a machine outside the body aims radiation at cancer cells).</li> <li>• Internal (when radiation is put inside the body, in or near the cancer cells).</li> </ul><br>Patients may receive radiation therapy at: <sup>31, 32</sup> <ul style="list-style-type: none"> <li>• Hospital</li> <li>• Radiation therapy center</li> <li>• Clinic</li> <li>• Cancer treatment center</li> </ul>   | About 60% of people with cancer get radiation therapy. <sup>30</sup>                 | The cost of radiation therapy varies based on the type of cancer and the type of radiation. In 2002, the mean cost of radiation therapy for prostate cancer was \$5,629, and the mean cost for breast cancer was \$2,244. <sup>8</sup>  |

*\*A limitation to the study from which these costs were derived was that the cost of radiation therapy was likely underestimated.*

| Treatment                 | Definition  | Method of Administration   | Prevalence of Use   | Cost   |
|---------------------------|---|--|---|--|
| <b>Surgery</b>            | <p>The removal of tissue or a tumor from the body.</p> <p>Used to diagnose, determine the stage, treat or prevent cancer.<sup>33</sup></p>  | <p>Patients may receive surgery at:</p> <ul style="list-style-type: none"> <li>• Hospital</li> <li>• Doctor's office</li> <li>• Cancer treatment center</li> <li>• Clinic</li> </ul>   | <p>Most people with cancer will have some type of surgery.<sup>33</sup></p>   | <p>The cost of surgery varies depending on the type of surgery and the type and stage of cancer. Mean costs of surgery in 2002:</p> <ul style="list-style-type: none"> <li>• \$24,910 for colorectal cancer</li> <li>• \$12,712 for lung cancer</li> <li>• \$9,080 for prostate cancer</li> <li>• \$5,674 for breast cancer<sup>8</sup></li> </ul> |
| <b>Biological Therapy</b> | <p>The use of drugs that trigger the body's immune system to fight cancer or to lessen the side effects caused by some cancer treatments.<sup>34</sup></p> <p>Used to:<sup>34</sup></p> <ul style="list-style-type: none"> <li>• Stop or slow the growth of cancer cells.</li> <li>• Make it easier for the immune system to destroy or get rid of cancer cells.</li> <li>• Keep cancer from spreading to other parts of the body.</li> </ul> | <p>Biological therapy is administered through:<sup>34</sup></p> <ul style="list-style-type: none"> <li>• Injection</li> <li>• Orally</li> <li>• Intravenously</li> </ul> <p>Patients may receive biological therapy at:</p> <ul style="list-style-type: none"> <li>• Home</li> <li>• A doctor's office</li> <li>• A clinic</li> <li>• An infusion center</li> <li>• A hospital</li> <li>• A cancer treatment center</li> </ul> | <p>According to Express Scripts, the prevalence of the use of biologics for cancer was 0.2% in 2009.<sup>35</sup></p> | <p>According to Express Scripts, the average cost per prescription for cancer biologics was \$2,324.03 in 2009.<sup>35</sup></p>   |

## Pharmacogenomic Testing

Pharmacogenomic testing is another medical tool that's being used increasingly in cancer treatment. Pharmacogenomic testing does the following:

- Helps determine how an individual's genes will affect the body's response to drugs and identifies potential adverse reactions.
- Enables oncologists to predetermine if particular treatments will be effective, rather than taking a trial-and-error approach to treating cancer.
- Can be used to identify key disease markers that determine therapy choice. For example, physicians treating early-stage breast cancer are beginning to use assays that scan a panel of genes correlated with response to therapy and disease recurrence.<sup>36</sup>

Pharmacogenomic testing enables more individualized treatment and coverage determinations. For example, when the FDA approved Herceptin for the treatment of metastatic breast cancer, it also approved a companion diagnostic test to determine which 25%-30% of patients would benefit from the drug.<sup>37</sup> Now physicians also can determine which patients will not benefit from treatment. Herceptin will be given to those patients who meet the genetic profile, disease

state and treatment history criteria. Patients who do not meet the criteria are not eligible for coverage for the drug.

Although pharmacogenomic testing holds promise, it's still in the early stage of development, it's not yet commonly used and it's only useful for a handful of conditions.

- According to a 2009 survey conducted by Medco of its employer clients, just 17% of respondents used genetic testing as a part of their benefit programs.<sup>38</sup>
- Nevertheless, pharmacogenomic testing is expected to play an increasing role in cancer treatment.<sup>35</sup> Currently, 10% to 20% of drugs in development, including many designed to treat cancer, are being tested along with a corresponding diagnostic tool to determine which patients will and will not benefit from the drug.<sup>39, 40</sup>

### ***Lack of Discussion about Treatment Costs***

Doctors and patients often do not discuss treatment costs. In a survey of oncologists, 20% said cost does not play a role in the clinical encounters with patients, and 31% said they were uncomfortable discussing cost with patients.<sup>41</sup>

### ***Integrated Care vs. Fragmented Care***

Coordinating care over time and across treatment sites and providers can be challenging for both patients and providers. Often patients with cancer must visit various facilities to receive the care they need across the care continuum. Furthermore, the lack of portable medical records among providers can cause gaps in the care a patient receives or possibly duplicated care.

Quality integrated care, on the other hand, means improved and more efficient services to the patient and greater cost-effectiveness for the employer. The essential elements of integrated care include the following:

- Shared understanding of patient needs among all providers;
- Common professional language and criteria;
- Use of specific, agreed-upon practices and standards throughout the lifecycle of a particular disease or condition; and
- Maintenance of ongoing patient-provider communication and feedback.<sup>42</sup>

### **Cancer Treatment Carve-Out Options**

With the costs of cancer treatment likely to continue to increase, employers are struggling with how to make it a more sustainable expense. Some employers are taking the approach of carving out oral, self-injectable and infused medications from the medical benefit and moving coverage to the pharmacy benefit. This has both advantages and disadvantages.

The advantages:

- Biologic medications covered under the medical benefit can be approximately 20%-30% more expensive than those covered under the pharmacy benefit.<sup>43</sup> This is because of “buy and bill” distribution, in which a physician purchases the biologic medication

from wholesalers or directly from manufacturers and then bills the payer for the cost of the drug at a mark-up plus an administrative fee.<sup>44</sup> This type of distribution undermines efforts to secure volume price discounts from manufacturers.<sup>45</sup>

- Medication claims data captured under the pharmacy benefit with National Drug Codes (NDCs) are more robust than medication claims data captured under the medical benefit with J-Codes.
  - Using NDCs allows drug claims to be paid based on contracted rates that have been negotiated between the payer and the benefit administrator.<sup>44</sup>
  - NDCs allow for clinical review, including drug interactions and appropriate dosing.

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*“Cancer is ‘the modern disease’ not just because we understand it in radically new ways but also because there’s a lot more cancer about. For some cancers, the rise in incidence is clearly connected with things that get into our bodies that once did not—the causal link between smoking and lung cancer being the most spectacular example. But the rise in cancer mortality is, in its way, very good news: as we live longer, and as many infectious and epidemic diseases have ceased to be major causes of death, so we become prone to maladies that express themselves at ages once rarely attained.”*

*-Steven Shapin, Cancer World: The Making of a Modern Disease  
The New Yorker, November 2010*

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The disadvantages:

- Stakeholders may become at odds with one another,<sup>46</sup> since a portion of the income oncologists make comes from reimbursement for infusions.
- Oncologists are resistant to administering infusions obtained from an outside vendor. Not only does this put employers and oncologists at odds, it places patients in the middle and can sidetrack efficient care.
- Patients and oncologists have concerns regarding possible care fragmentation and ease of treatment.<sup>47</sup>
- Employee uncertainty about how and where they should get their treatment.<sup>47</sup> It can also add to the fragmentation of the data collection for “true” cost of care.

Employers understand that a cancer diagnosis can be devastating for an employee and/or care-giver. As much as employers are concerned about bending their own cost curves, cancer treatment is an area in which many employers have great empathy and generally take a hands-off approach when it comes to putting in benefit requirements or restrictions.

This is probably why recent research by Express Scripts, using integrated medical and pharmacy claims data from the MarketScan Commercial Claims and Encounter Database, found that 81% of cancer drug spending in 2008 occurred in the medical benefit, rather than in the pharmacy benefit. However, as health care costs continue to rise and employers assess how to distribute their benefit dollars, they may be forced to factor cost-effectiveness into the cancer treatment equation.



# Pathways to Managing Cancer *in the* Workplace

## Part II: Four Major Types of a Cancer

### Prevalence and Incidence

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This section focuses on breast, colorectal, lung and prostate cancer. These types of cancer have been singled out for discussion because they are the most common types in the U.S. population. This number is determined by incidence, which refers to the number of people newly

diagnosed with cancer in a given time period, usually broken down by year.<sup>45</sup> According to National Cancer Institute Surveillance Epidemiology and End Results (SEER) data, between 2003 and 2007 the incidence rate for all cancers was 461.6 per 100,000 people per year.<sup>1</sup> For 2010, the American Cancer Society projected a total of 1.5 million new cancer cases and 569,490 cancer-related deaths (over 1,500 per day).<sup>2</sup>

Incidence should not be confused with prevalence, which is the total number of people living with cancer at any point in time.<sup>3</sup> Prevalence is a composite number, reflecting both the incidence of a particular cancer type and how long people stay alive with the disease. A

*“The cancers of the past were visible on the body’s surface; now we have visual access to the enemy within at a micro level. Modern technologies—advances in microscopy, histological staining, biopsies, X-rays, computed tomography (CT) and magnetic resonance imaging (MRI) scans—have given us new possibilities for understanding cancer, but also a new vocabulary of fear.”*

*-Steven Shapin, Cancer World: The Making of a Modern Disease*  
*The New Yorker, November 2010*

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particular type of cancer can be common because many people are diagnosed with it, but not prevalent because the mortality rate is high. Lung cancer fits into this category.

Although an exact figure for cancer prevalence in the United States is not yet available, the American Cancer Society (ACS) has estimated there were nearly 12 million cases of cancer in 2007.<sup>3</sup> ACS also estimates that about 11 million people alive today have been diagnosed with some type of cancer in their lifetime.<sup>4</sup>

## Breast Cancer

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### ***Description***

Breast cancer originates with the formation of abnormalities in breast cells. These abnormal cells grow, divide and create new cells, resulting in the development of a tumor. Breast cancer can affect both men and women, but it is much more common in women. One in eight women are at risk for developing breast cancer over a lifetime.<sup>5</sup> In fact, next to skin cancer, breast cancer is the second leading cause of cancer death for women in the U.S. The most common types of breast cancer include:<sup>6</sup>

- Ductal carcinoma: Begins in the cells that line the milk ducts in the breast.
- Lobular carcinoma: Begins in the lobes, or lobules, of the breast.

### ***Risk Factors***

The two most significant risk factors for breast cancer are ethnicity and age. The highest-risk populations for breast cancer in the United States, in order from highest incidence, are the following:<sup>5</sup>

- White women;
- African American women; and
- Asian/Pacific Island women (especially Hawaiian).

There is a clear connection between developing breast cancer and age. According to the National Cancer Institute's SEER program, the chance of a woman being diagnosed with breast cancer increases with age.<sup>7</sup>

- By age 30, 1 in 2,212
- By age 40, 1 in 235
- By age 50, 1 in 54
- By age 60, 1 in 25
- By age 70, 1 in 14

Genetics and personal behaviors also contribute to a woman's likelihood of getting breast cancer. Two genes in particular, BRCA1 and BRCA2, put a woman at higher risk.<sup>8</sup> The names of these genes stand for "breast cancer susceptibility genes 1 and 2."<sup>9</sup> In normal cells, these genes help prevent uncontrolled cell growth, but mutations of the genes can often lead to breast cancer.<sup>9</sup> Other risk factors for breast cancer are menstrual periods beginning before age 12 or menopause occurring after age 55.<sup>8</sup>

Behavioral risk factors for breast cancer include:<sup>8</sup>

- Being overweight;
- Birth control pill use;
- Long-term hormone replacement therapy use (estrogen and progesterone);
- Excessive alcohol consumption (2-5 drinks or more per day); and
- Not having children by age 35 or having a first child after age 35.

In recent years, hormone replacement therapy has become an especially controversial issue. Many women undergo hormone replacement therapy during menopause as their estrogen and progesterone levels deplete. But the Women's Health Initiative (WHI), a large trial testing the safety of hormone replacement therapy, found that certain combinations of these drugs (estrogen and progestin) could affect a woman's probability of developing breast cancer.<sup>10</sup>

The findings from WHI showed that daily use of combined hormone replacement therapy (progestin and estrogen) increased a woman's chances of developing breast cancer by about 5%-6% with each year of use.<sup>10</sup> Studies from the WHI and other researchers examining estrogen use alone varied. Some showed slight increases in breast cancer risk, while others demonstrated slight decreases.<sup>10, 11</sup>

### ***Prevalence, Incidence and Mortality***

Except for certain skin cancers, breast cancer is the most common cancer in women. The information below provides estimates of the prevalence, incidence and mortality rates of breast cancer:

- In 2007, the estimated prevalence of women with a history of breast cancer in the U.S. was approximately 2.5 million.<sup>5</sup>
- In 2006, 191,410 women were diagnosed with breast cancer and 40,820 women died from the disease.<sup>6</sup>
- The age-adjusted incidence rate between 2003 and 2007 was 122.9 per 100,000 women per year.<sup>5</sup>
- The National Cancer Institute (NCI) estimated that in 2010 there will be more than 200,000 new female cases and nearly 2,000 new male cases of breast cancer.<sup>12</sup>
- NCI estimated there will be nearly 40,000 female deaths from breast cancer in 2010.<sup>12</sup>

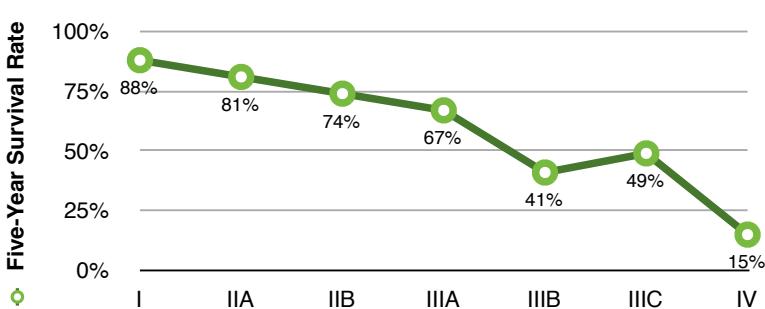
**Table 3: 2003-2007 Breast Cancer Mortality Rates by Age in the U.S.**

| Age    | Percentage |
|--------|------------|
| 0-20   | 0.0%       |
| 20-34  | 0.9%       |
| 45-54  | 15.0%      |
| 55-64  | 20.08%     |
| 65-74* | 19.7%      |
| 75-84  | 22.6%      |
| 85+    | 15.1%      |

\* The median age for breast cancer mortality is 68.

Source: National Cancer Institute. SEER Stat Fact Sheets: Breast Cancer. 2007. (Click to access online source)

**Figure 2: Five-Year Survival Rate of Breast Cancer by Stage**



Source: American Cancer Society. Breast cancer survival rates by state. 9 Feb 2011. (Click to access online source)

The average five-year survival rate for breast cancer varies based on race, ranging between 77.5% for black women and 90.2% for white women.<sup>5</sup> However, as shown in Figure 2, the five-year survival rate of breast cancer also varies significantly by the stage of diagnosis.<sup>5</sup>

### ***Economic Benefit of Preventive Intervention Screening***

A better understanding of the disease, earlier detection and better treatment have resulted in increased survival rates for

women with breast cancer. If breast cancer is diagnosed when the tumor is in its earliest stages, treatment may be more effective and less expensive.<sup>13</sup> As breast cancer progresses from stage to stage, the associated treatment becomes longer, more difficult and more expensive.

- The per-person screening cost of mammography ranges between \$50 and \$150.<sup>13, 14</sup>
- Costs associated with a positive diagnosis of breast cancer range from \$451 to \$2,520, factoring in continued testing, multiple office visits and varying procedures; this figure does not include the subsequent costs of treatment and counseling, and indirect costs associated with absenteeism and lost productivity.<sup>13, 14</sup>
- Testing, however, is not devoid of risk. False-positive tests are common and can create anxiety and further unnecessary testing. False-positives are most common in younger women, women who have had previous breast biopsies, women taking hormone replacements and women with a family history of breast cancer.<sup>12</sup>
- Breast cancer treatment costs in the U.S. total nearly \$7 billion per year, \$2 billion of which is spent on late-stage treatment.<sup>15</sup>

### Breast Cancer Benefit Coverage (Screening and Treatment) and Summary Plan Description Language

#### *Screening*

The USPSTF currently makes the following recommendations regarding screening for breast cancer:

- Women between the ages of 50 and 74 should receive biennial screening mammography (B recommendation).
- The current evidence is insufficient to assess the additional benefits and harms of screening mammography in women 75 years or older (I statement).
- Current evidence is insufficient to assess the additional benefits and harms of clinical breast examination (CBE) beyond screening mammography in women 40 years or older (I statement).
- Current evidence is insufficient to assess the additional benefits and harms of either digital mammography or magnetic resonance imaging (MRI) instead of film mammography as screening modalities for breast cancer (I statement).<sup>17</sup>

#### *Genetic Risk Assessment and BRCA Mutation Testing*

According to the United States Preventive Services Task Force (USPSTF) recommendations, women with a family history of deleterious mutations in BRCA1 or BRCA2 genes are at a higher risk for getting breast cancer and should be referred for genetic counseling and evaluation for BRCA testing. However, the USPSTF also recommends against routine referral for genetic counseling or gene testing for those who do not have a family history of BRCA1 or BRCA2 mutations as the harms of such testing could outweigh the benefits.<sup>16</sup>

Average-risk women between the ages of 40 and 80 are eligible for one mammogram per year. High-risk women, if deemed necessary by a medical professional, may qualify for screening at a

## *USPSTF Recommendations*

The USPSTF currently grades preventive services on an A-D scale or designates a preventive service with an I statement. The Business Group includes only the A and B recommendations when advising employers on benefit coverage. Below is an explanation of the grading system:

- A recommendation: Employers are strongly recommended to provide coverage.
- B recommendation: Employers are recommended to provide coverage for eligible patients.
- C recommendation: Employers should provide coverage only if there is a compelling reason to do so with an individual patient.
- D recommendation: Employers are discouraged from providing coverage.
- I statement: Employers have discretion as to whether or not they provide coverage due to insufficient evidence.

younger age.<sup>13</sup> There are many different screening procedures that could be beneficial to women at high risk for breast cancer.<sup>18</sup> For these women, it is essential to consult with a physician to develop an appropriate screening method and frequency.

### ***Preventive Medication***

In 2002, the USPSTF issued two cautionary statements concerning preventive medication for breast cancer.<sup>19</sup> The Task Force recommended against the use of tamoxifen or raloxifene for the primary prevention of breast cancer in women at low or average risk for breast cancer, due to the fact that potential harms of chemoprevention could outweigh the potential benefits in women who are not at high risk for breast cancer.<sup>19</sup>

However, USPSTF recommended that women with high risk for breast cancer and low risk for adverse effects of chemoprevention discuss chemoprevention with a clinician. Clinicians should also inform patients of the potential benefits and harms of chemoprevention.<sup>19</sup>

Chemoprevention, or chemoprophylaxis, refers to the use of preventive medication for women with a high risk of breast cancer.<sup>20</sup> Tamoxifen and raloxifene are examples of chemoprevention medications. Although chemoprevention can be effective, it is not a guarantee that it will prevent cancer in high-risk individuals. What's more, the significant potential risks could outweigh the benefits.<sup>20</sup>

## Colorectal Cancer

### **Description**

Colorectal cancer (also commonly called colon cancer) refers to cancer that occurs in the colon (large intestine or large bowel) or rectum (passageway that connects the colon to the anus). Most cases begin with a small, benign grouping of cells called polyps that become cancerous over time. These polyps are usually small and produce few, if any symptoms, which is why screening tests and other preventive measures are essential in preventing colorectal cancer. Colorectal cancer is the fourth most common cancer in women and men and the second leading cancer killer for both men and women.<sup>21</sup>

### **Risk Factors**

There are several risk factors for colorectal cancer. First, like many other cancers, a person's risk of getting colorectal cancer increases with age; more than nine out of ten people diagnosed with colorectal cancer are older than age 50.<sup>22</sup>

Colorectal cancer is the fourth most common cancer in women and men and the second leading cancer killer that affects both men and women.<sup>21</sup>

The racial and ethnic groups with the highest colorectal cancer incidence and mortality rates are African Americans in the U.S. and Eastern European Jews in the world population.<sup>23</sup>

A personal or family history of colorectal polyps or cancer is a significant risk factor. As many as one in five people who develop the disease have other family members who have also been affected.<sup>22</sup> About 5%-10% of people who develop colorectal cancer have inherited gene changes that cause the disease.<sup>23</sup>

A history of inflammatory bowel disease (IBD) also increases the risk of colorectal cancer. Inflammatory bowel disease is a group of inflammatory conditions that affect the gastrointestinal tract, ranging in location and scope. The most common conditions in this group are ulcerative colitis and Crohn's disease. A person who has irritable bowel disease for many years will often develop cell abnormalities in the lining of the colon or rectum that can eventually change into cancer.<sup>23</sup> It should also be noted that irritable bowel disease is different from irritable bowel syndrome (IBS), which does not carry a significant risk for colorectal cancer.<sup>23</sup> Irritable bowel syndrome is generally caused by infection, stress, or diet and causes frequent constipation, diarrhea, or alterations of both.

Type 2 diabetes, which can be caused by both genetic and behavioral factors, also is a risk factor for colorectal cancer.<sup>23</sup>

Crohn's disease is an even larger problem, since the incidence and prevalence have increased steadily over the past 50 years.<sup>24</sup> About seven of every 100,000 people in the United States have Crohn's disease, one of the highest rates in the world.<sup>24</sup> Recent studies have also demonstrated a gradual increase in Crohn's disease incidence in children, particularly between the ages of 10-14 years.<sup>48</sup>

Behavioral and lifestyle risk factors related to a higher risk for colorectal cancer include:<sup>23</sup>

- A diet that is high in red meats and/or processed meats;
- Cooking meats at very high temperatures;
- Obesity;
- Physical inactivity;
- Smoking; and
- Heavy alcohol use.

### Prevalence, Incidence and Mortality Rates

- In 2007, the estimated prevalence of men and women with a history of colorectal cancer in the U.S. was slightly over one million (540,636 men and 571,857 women).<sup>25</sup>
- In 2006, 139,127 people in the United States were diagnosed with colorectal cancer (70,270 men and 68,857 women).<sup>26</sup>
- In 2006, 53,196 people died of colorectal cancer (26,801 men and 26,395 women).<sup>26</sup>
- In 2010, it is estimated there will be 102,900 new colon cancer cases and 39,670 rectal cases.<sup>21</sup>
- In 2010, it is estimated there will be 51,370 deaths from colorectal cancer.<sup>21</sup>

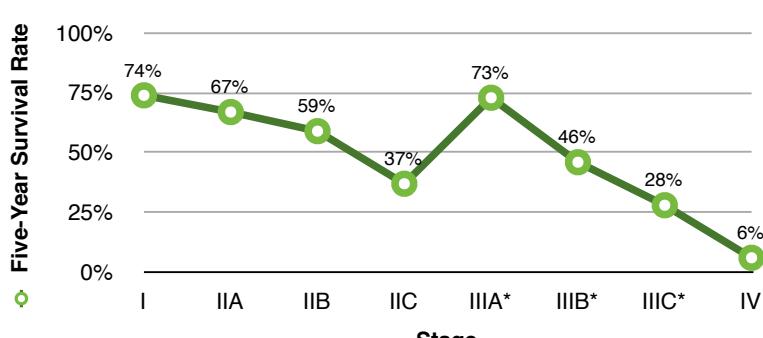
**Table 4: 2003-2007 Colorectal Cancer Mortality Rates by Age in the U.S.**

| Age    | Percentage |
|--------|------------|
| 0-20   | 0.0%       |
| 20-34  | 0.6%       |
| 35-44  | 2.4%       |
| 45-54  | 8.1%       |
| 55-64  | 15.6%      |
| 65-74* | 22.2%      |
| 75-84  | 30.4%      |
| 85+    | 20.6%      |

\* The median age for colorectal cancer mortality is 75.

Source: National Cancer Institute. SEER Stat Fact Sheets: Colon and Rectum 2007. (Click to access online source)

**Figure 3: Survival Rates for Colon Cancer by Stage**



\* The study cited found a surprising increase in five-year survival rate for stage III cancer patients, but the reasons for this increase were not discovered.

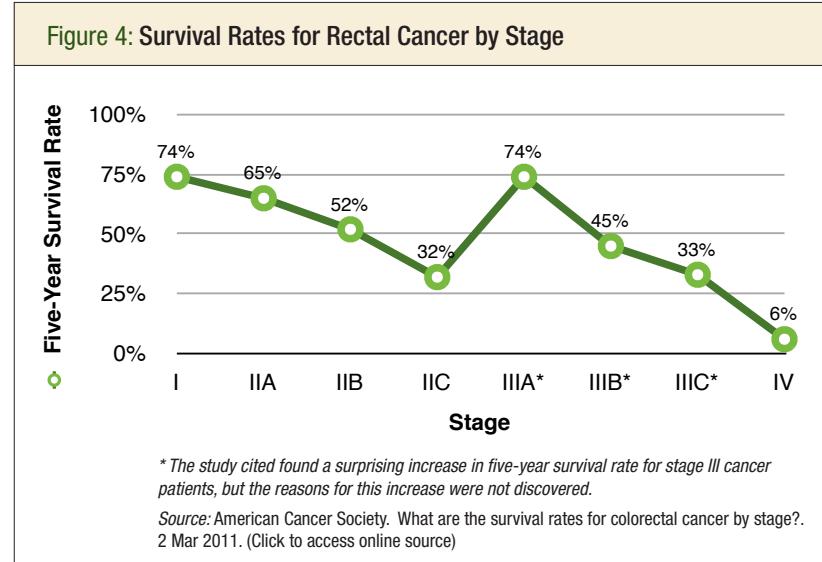
Source: American Cancer Society. What are the survival rates for colorectal cancer by stage?. 2 Mar 2011. (Click to access online source)

Figure 3 shows the average five-year survival rate and survival rate by stage for colon cancer. Figure 4 shows the same information for rectal cancer. Note that these rates vary depending on the location of the cancer.<sup>23</sup>

### Economic Benefit of Preventive Intervention Screening

Since precancerous polyps have few, if any, symptoms, regular screening allows clinicians to identify and remove them before they develop into cancer. The cost of screening is most often less than the

cost of treatment.<sup>27</sup> Even if cancerous polyps are detected, when the cancer is still confined to the colon early treatment is significantly cheaper than when the cancer has grown and spread. For example, the lifetime treatment cost of colorectal cancer is \$7,000 more for the regional stage when the cancer has spread to lymph nodes in the same area, and \$16,000 for distant stage or metastatic colorectal cancer.<sup>28</sup>



### Benefit Coverage

(Screening and Treatment) and Summary Plan Description Language

The USPSTF has assigned an A-level recommendation for fecal occult blood testing, flexible sigmoidoscopy and/or colonoscopy to screen for colorectal cancer for individuals age 50 to 75. Currently, there is insufficient evidence that the benefits of new screening methods, such as computed tomographic colonoscopy and fecal DNA testing, outweigh the risks and harms.<sup>29</sup>

In contrast, the American Cancer Society recommends one of the following tests to check for polyps, usually the first sign of colorectal cancer:

- Flexible sigmoidoscopy every five years.
- Colonoscopy every 10 years.
- CT colonography (virtual colonoscopy) every five years.

### *Colonography and Colonoscopy*

A CT colonography is a digital imaging scan of the colon and is generally seen as less invasive than the standard colonoscopy. Colonography is also less costly, produces clearer and more detailed images, and is generally tolerated better by elderly, frail, or sick patients.

## Lung Cancer

### Description

There are two main types of lung cancer: small cell lung cancer and non-small cell lung cancer. Small cell lung cancer is the less common type, occurring almost exclusively in heavy smokers.

Lung cancer can originate in any part of the lung, but most cases begin in the lining of the bronchi (the two airways that bring air into the lungs, also called the trachea). The first signs of lung cancer are unnoticeable, involving precancerous changes in lung tissue that cannot be seen on an x-ray and do not cause symptoms. In time, these abnormalities can develop into cancer. Lung cancer often spreads through the lymph system, a network of vessels that carry lymph fluid throughout the body. The dangerous and most difficult facet of lung cancer is the fact that this process often occurs before detection.<sup>27</sup>

Lung cancer is the leading cause of cancer deaths in the U.S. for both men and women. Lung cancer claims more lives each year than colorectal, prostate, ovarian, lymph and breast cancers combined.<sup>27</sup>

### Risk Factors

The biggest risk factor for lung cancer is cigarette smoking and exposure to secondhand smoke.

- Risk of getting the disease increases with the length of time one smokes and the number of cigarettes smoked.
- Quitting, even after smoking for several years, can significantly reduce the risks of developing lung cancer.<sup>27</sup>

Other risk factors that can lead to lung cancer:

- Exposure to radon, asbestos, arsenic, chromium, nickel and tar.
- A family history of lung cancer.
- Excessive alcohol use (more than one drink a day for women and two for men).
- Certain lung diseases such as chronic obstructive pulmonary disease.<sup>27</sup>

### Prevalence, Incidence and Mortality Rates

- In 2007, the estimated prevalence of men and women with a history of lung cancer in the U.S. was approximately 370,617 (172,739 men and 197,878 women).<sup>32</sup>
- In 2006, 196,454 people were diagnosed with lung cancer (106,374 men and 90,080 women) and 158,599 people died from it (89,243 men and 69,356 women).<sup>33</sup>
- In 2010, it is estimated that there will be 222,520 new cases of lung cancer (non-small cell and small cell combined) and 157,300 deaths.<sup>34</sup>

**Table 5: 2003-2007 Lung Cancer Mortality Rates by Age in the U.S.**

| Age    | Percentage |
|--------|------------|
| 0-20   | 0.0%       |
| 20-34  | 0.1%       |
| 35-44  | 1.4%       |
| 45-54  | 7.9%       |
| 55-64  | 19.7%      |
| 65-74* | 30.6%      |
| 75-84  | 30.7%      |
| 85+    | 9.6%       |

\* The median age for lung cancer mortality is 72.

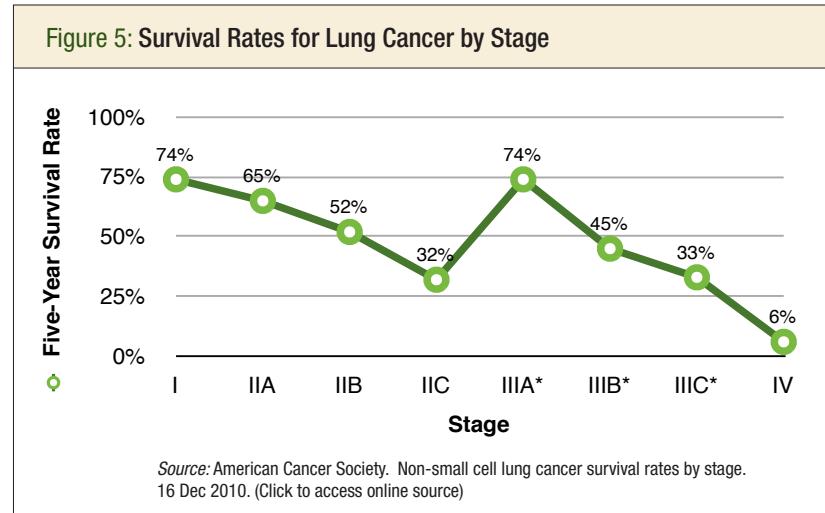
Source: National Cancer Institute. SEER Stat Fact Sheets: Lung and Bronchitis 2007. (Click to access online source)

- Lung cancer is the leading cause of cancer deaths in the U.S. for both men and women.<sup>27</sup>
- Lung cancer claims more lives each year than colorectal, prostate, ovarian, lymph and breast cancers combined.<sup>27</sup>

The current prognosis for lung cancer is bleak. Without treatment, small cell cancer patients are expected to live only two to four months. In patients with extensive disease, treatment can prolong life only six to 12 months. Only about 6% of people with small cell cancer are still alive five years after their diagnosis.<sup>35</sup>

Lung cancer survival for non-small cell cancer patients varies based on various factors, including:

- Location of the cancer;
- Age;
- Sex (life expectancy is higher at each stage for women);
- General health at time of diagnosis;
- Side effects of treatments;
- Other health conditions; and
- Complications.



The average five-year survival rate for non-small cell lung cancer patients following diagnosis is less than 10%.<sup>36</sup> However, the five-year survival rate does fluctuate depending on the stage of the cancer when it is detected and whether treatment can halt or slow its spread. Figure 5 shows the average five-year survival rates for each stage of lung cancer if that stage is controlled.<sup>27</sup>

### ***Economic Benefit of Preventive Intervention Screening***

Existing screening tests for lung cancer often do not detect cancer early enough to improve survival rates.<sup>27</sup> Biopsies (removal of a small piece of lung tissue for more testing) can sometimes detect cancer, but research has not demonstrated that the benefits of biopsies outweigh the risks and harm.<sup>37</sup> As a result, no major professional organizations recommend routine screening for lung cancer.<sup>27</sup>

If lung cancer is detected, treatment often depends on the type of cancer and its stage. Because lung cancer is so difficult to control with current treatment options, doctors often encourage patients with lung cancer to consider participating in a clinical trial to inform future research and provide more information about possible effective treatment.

The costs for lung cancer treatment are among the highest in American health care spending. Direct medical costs for lung cancer treatment is approximately \$5 billion annually, making it one of the most expensive cancers to treat nationwide.<sup>38</sup>

### Benefit Coverage (Screening and Treatment) and Summary Plan Description Language

The USPSTF does not make a recommendation for or against lung cancer screening with either low-dose computerized tomography (LDCT), chest x-ray (CXR), sputum cytology or any combination of these options (I statement, insufficient evidence).<sup>39</sup>

## Prostate Cancer

### **Description**

Most cases of prostate cancer originate in the gland cells, growing slowly and usually remaining confined to the prostate.<sup>40</sup> However, certain cases can spread rapidly and may require aggressive treatment.<sup>41</sup> Prostate cancer is the third most common cause of death from cancer in men of all ages and the most common cause of death from cancer in men over the age of 75.<sup>41</sup> It is rarely found in men under 40 years old.<sup>41</sup>

### **Risk Factors**

- The risk of getting prostate cancer increases with age. Most sources set the risk age around 65, with risk increasing thereafter.
- High-risk populations include African American men and men with a family history of prostate cancer.<sup>41</sup>
- Obese men with prostate cancer are more likely to be diagnosed with an advanced form of the disease that is more difficult to treat, but studies have shown that obesity is not necessarily a risk factor for prostate cancer.<sup>40, 42</sup>
- Researchers have found certain genetic changes within specific regions of certain chromosomes to be linked to higher prostate cancer risk.

The groups with the lowest incidence of prostate cancer are:<sup>41, 42</sup>

- Japanese men;
- Vegetarians; and
- American Indian/Alaska Native men.

### **Prevalence, Incidence and Mortality**

Prostate cancer is the second most common type of cancer among men in the United States, second only to skin cancer.

**Table 6: 2003-2007 Prostate Cancer Mortality Rates by Age in the U.S.**

| Age    | Percentage |
|--------|------------|
| 0-20   | 0.0%       |
| 20-34  | 0.0%       |
| 35-44  | 0.1%       |
| 45-54  | 1.4%       |
| 55-64  | 7.5%       |
| 65-74* | 19.9%      |
| 75-84  | 40.3%      |
| 85+    | 30.8%      |

\* The median age for prostate cancer mortality is 80.

Source: National Cancer Institute. SEER Stat Fact Sheets: Prostate.  
(Click to access online source)

- In 2007, the estimated prevalence of men with a history of prostate cancer in the U.S. was 2,276,112.<sup>43</sup>
- In 2006, 203,415 men were diagnosed with prostate cancer, resulting in 28,372 deaths.<sup>44</sup> The prostate cancer yearly incidence rate (based on 2003-2007 data) was 156.9 cases per 100,000 men.<sup>43</sup>
- In 2010, it is estimated there will be 217,730 new cases of prostate cancer and 32,050 deaths.<sup>42</sup>

According to 2006 SEER statistics, the overall five-year survival rate between 1996 and 2006 was 99% for white men and 96% for black men.<sup>43</sup> Survival rate also varied by stage. During this same time period, localized (cancer is confined to prostate) and regional (cancer has spread to the regional lymph nodes) prostate cancer both had five-year survival rates of 100%.<sup>43</sup> This drops off to 30.2% for the distant stage IV, when the cancer has metastasized.<sup>43</sup>

### ***Economic Benefit of Preventive Intervention Screening***

As a result of physical examinations, other tests and more routine prostate-specific antigen (PSA) testing, most prostate cancers are now detected before symptoms emerge, allowing more time for medical attention and treatment, if necessary.<sup>45</sup> A PSA test measures the amount of prostate-specific antigen in a patient's blood. Although recommended by some organizations as an effective screening method for prostate cancer, the issue of PSA testing is controversial as it is not clear if the procedure's benefits outweigh the risks. Elevated PSA levels require a prostate biopsy to diagnose prostate cancer, and this procedure can result in many harmful side effects, including incontinence, bleeding and infection, erectile dysfunction and other complications.<sup>49</sup>

A 2007 study estimated that the total five-year cost of prostate cancer treatment was, on average, \$42,570, with fluctuations depending on a patient's age, specific treatment and the course of the disease. The study also estimated a range of \$2,568 to \$24,204 in the first six months of treatment, and an annual cost range of \$5,843 to \$12,590.<sup>46</sup> These numbers encompass a range of different therapies and treatment techniques, from watchful waiting to the most expensive—external beam radiation.

The two most common tests used to detect prostate cancer are a digital rectal exam and a blood test for a prostate-specific antigen PSA. During a rectal exam, a doctor checks the prostate with his finger by inserting it through the rectal wall. The PSA level in the blood may be elevated due to prostate cancer, but there is a chance of false positive results. An elevated PSA level could also be caused by BPH (benign prostatic hypertrophy) or prostatitis (prostate inflammation).<sup>42</sup>

The only sure way to diagnose prostate cancer is through a transrectal biopsy, in which a doctor removes small tissue samples, or cores, from several different areas of the prostate and checks the tissue for cancer cells.<sup>42</sup> Recent studies, however, have linked this procedure to erectile dysfunction and urinary problems.<sup>47</sup>

There is much disagreement within the medical community about the best way to screen for

prostate cancer. Some medical organizations do not think screening through a transrectal biopsy is necessary or appropriate.<sup>40</sup> As mentioned earlier, this procedure can lead to negative effects, including false positive test results, unnecessary treatment and treatment side effects, which could outweigh the benefits of taking the biopsy. This screening method can also lead to serious and permanent side effects, such as erectile dysfunction and urinary incontinence.<sup>42</sup>

If prostate cancer is detected earlier through regular screening (a rectal exam or PSA test), significant costs may be avoided. However, the balance of costs and benefits for many prostate cancer tests remains in question.

#### Benefit Coverage (Screening and Treatment) and Summary Plan Description Language

The USPSTF recommends against prostate cancer screening for men 75 years of age or older. It also has concluded that the current evidence is insufficient to assess the balance of benefits and harms of prostate cancer screening in men younger than 75 (I Statement).<sup>48</sup>



# Pathways to Managing Cancer *in the* Workplace

## **Part III:** Strategies for Managing Cancer in the Workplace

There are many strategies an employer can implement to create a culture of prevention and a supportive environment for an employee dealing with cancer either as a patient or a caregiver. This section covers some of the ways that employers can address cancer in the workplace.

### Cancer Prevention

#### **1. *Implement a tobacco-free workplace:***

More than 87% of lung cancer cases are smoking-related, and lung cancer causes more deaths than breast, colorectal and prostate cancer combined.<sup>50</sup> As a result, tobacco-free workplaces are one of the best methods for preventing lung cancer. A tobacco-free work environment can limit exposure to secondhand smoke and may encourage employees who smoke to quit. It is recommended that an employer take six months to one year to plan for and fully institute a tobacco-free workplace.

#### **2. *Provide comprehensive tobacco cessation benefits:***

Benefits must be introduced concurrently or before a tobacco-free workplace policy is established. In order to make a smooth transition to the new workplace policy, employees who use tobacco need tobacco cessation benefits available to them.

Cost analyses have shown that, from an employer's perspective, tobacco cessation benefits are cost-saving.<sup>51</sup>

- A comprehensive and effective smoking cessation program will usually cost less than \$0.50 per member per month (PMPM).<sup>52</sup>
- Tobacco use screening, along with a brief intervention to help employees stop smoking, is among the top three high value preventive services (after aspirin therapy and childhood immunizations).<sup>53</sup>
- Each employee or dependent who quits smoking reduces annual medical and life insurance costs by at least \$210 almost immediately.<sup>54</sup>

**3. Provide wellness benefits and health promotion programs:**

Employers can encourage healthy lifestyles by providing healthy food choices in company cafeterias and using incentives, such as reduced employee contributions to health insurance premiums for being tobacco free, participating in more physical activities or actively participating in programs that promote health.

- According to the World Health Organization, 40% of cancer cases could be prevented simply by not using tobacco, eating a healthy diet, exercising and avoiding infections that can cause cancer.<sup>55</sup>
- Diets high in vegetables and fruits have been linked with a decreased risk of colorectal cancer.
- Obese men with prostate cancer are more likely to be diagnosed with an advanced form of the disease that is more difficult to treat, but studies have shown that obesity is not necessarily a risk factor for prostate cancer.<sup>56, 57</sup>

## Early Detection

**1. Encourage employees to get screened for cancer:**

Employers can encourage employees to get screened for cancer in the following ways:<sup>58</sup>

- Remind employees that screenings are covered at no cost.
- Educate employee about why and when they should be screened for cancer.
- Communicate to employees about cancer by distributing fact sheets, newsletters, pamphlets and other educational materials.
- Suggest employees get screened as a “gift” to family members.
- Encourage employees to speak with their medical providers about recommended preventive services, including cancer screening and early detection.
- Consider offering on-site screening services.

**2. Work with health plans and providers to increase cancer screening rates:**

As discussed in previous sections of this Guide, screening is important because it can lead to earlier detection, which may improve treatment outcomes and reduce treatment costs. To increase cancer screening rates, employers can work with health plans in the following ways:<sup>58</sup>

- Make sure the plan covers evidence-based cancer screening and early detection.
- Extend coverage of screening to employees’ spouses, domestic partners other dependents and retirees, if applicable.
- Ask health plans to send personal reminders to employees about the importance of taking advantage of covered screenings. The reminders can be sent by medical plans, employee benefits or health promotion departments.
- Announce the importance of screenings to all employees, tied to national campaigns where possible.
- Ensure that the plan’s health care providers routinely receive feedback on their cancer screening rates.

## Cost and Quality Management

### ***1. Carve out self-administered and oral oncology medications from the medical benefit and move them to the pharmacy benefit:***

By taking this step, employers can change cost-sharing structures and provide better medications claims data based on National Drug Codes (NDCs). NDCs allow for clinical review, including drug interactions and appropriate dosing. It is also less expensive than keeping them under the medical benefit.<sup>43</sup> Carving out oncology drugs is especially important, because nearly a quarter of oncology drugs in the pipeline are administered orally.<sup>35</sup> Making this change also allows patients to obtain their medications from a retail pharmacy, mail-order pharmacy or specialty pharmacy provider.

### ***2. Institute individual and family out-of-pocket maximums for the medical and pharmacy benefit:***

The out-of-pocket costs for cancer treatment can quickly amount to a level that far surpasses what many patients can afford. In order to keep treatment costs manageable for employees with cancer, it is important that employers have combined out-of-pocket maximums. The absence of an out-of-pocket maximum can expose conditions such as cancer to financially devastating costs, especially when considering specialty drugs and chemotherapy.

### *A Purchaser's Guide to Clinical Preventive Services: Moving Science into Coverage*

This important product is the National Business Group on Health's informational tool for employers to assist with the design of clinical preventive services benefits (<http://www.businessgrouphealth.org/preventive>). It provides guidance about clinical preventive services shown to be effective by the USPSTF, the Centers for Disease Control and Prevention (CDC) and the Agency for Healthcare Research and Quality (AHRQ). The guide also includes summary plan description language for coverage for tobacco cessation screening, counseling and treatment, as well as appropriate language for coverage for breast, cervical and colorectal

While the majority of employers offer health plans with out-of-pocket maximums, employers may want to consider instituting a family out-of-pocket maximum for the medical and pharmacy benefits, in addition to individual out-of-pocket maximums for the medical and pharmacy benefits. Family out-of-pocket maximums put a cap on the aggregate cost sharing for family members enrolled in the same plan. This can protect families that may have more than one serious health condition.

### ***3. Institute prior authorization and step therapy requirements for certain oncology treatments:***

Prior authorization or prior notification can help ensure safe and appropriate treatment by encouraging evidence-based prescribing.

- If employers use genetic testing, prior authorization can ensure that patients meet the genetic profile, disease state and treatment history criteria required to receive certain medications, such as Herceptin.

- Employers may want to consider implementing step therapy in order to ensure that patients try first- line agents with the greatest evidence of effectiveness and the least amount of risk before trying riskier medications with weaker evidence of effectiveness.

**4. *Implement pharmacogenomic testing for oncology medications with companion diagnostic tests that are considered proven:***

Although pharmacogenomic testing is still in its early stages, for the right patients, it can help reduce waste and improve patient health outcomes. When implementing pharmacogenomic testing, employers will need to consider pharmacy plan design, network capability and level of coverage. For example, employers can work with their health plan or pharmacy benefits manager (PBM) to ensure that prior authorization is used with genetic testing so that drugs are not approved for individuals who do not meet the criteria or genotypic profile. In addition, it may be important to institute coverage limits for dosage and duration of treatment.

It is also necessary for employers to work with their health plan and PBM to do the following:

- Define who is responsible for case management;
- Ensure appropriate follow-up lab tests are performed; and
- Develop policies and procedures that promote privacy of genetic information and prevent genetic discrimination.

Finally, employers can establish principles and guidelines for coverage before claims are incurred. Employers may want to provide 100% coverage for tests that provide information that significantly enhances the effectiveness of the treatment.

**5. *Select best-in-class providers and ensure network adequacy:***

Employers can choose specific facilities and/or providers that offer superior cancer treatment. Employers can contract with these facilities directly or work with health plans or consultants to research best-in-class providers to ensure in-network inclusion.

**6. *Provide expert second opinion programs and decision support tools:***

Provide tools and resources to help individuals make informed decisions when seeking medical care. Many of these programs and services provide medical decision, surgery decision, and chronic condition support. Some companies providing consumer decision-support services also work directly with providers. Nurse lines, self-care guides, self-study modules, online information and tools and health navigators are examples of support services. Often Web or electronic resources are available with the following:

- Research related to a condition or diagnosis.
- Interactive, web-based programs and learning modules.
- Information on choosing a physician.
- Information on choosing a hospital.
- Ways to cope with a condition.

Some decision support companies even provide cancer genetic counseling through a telephonic service. Specially trained counselors help patients and their doctors make the most informed decisions about the following:

- Genetic testing;
- Cancer screening; and
- Cancer prevention decisions.

## Ease of Treatment

### **1. Consider leaving infusions under the medical benefit:**

Employers can consider leaving infusions under the medical benefit to ensure continuity and ease of care. This approach will also assist with coordination of care. However, if an employer decides to carve out infusions, the company may want to find facilities that are willing to accept and administer infusions from a PBM before implementing the change. This will ensure that employees have a designated place to receive treatment if they run into resistance from their oncologists.

### **2. Select your provider network carefully and make any changes to the network based on the needs of your population:**

According to the results of a study commissioned by the American Society of Clinical Oncology, the U.S. is expected to face an approximate 50% increase in the demand for oncology services by 2020.<sup>60</sup> This is due to increased cancer survivorship and an increase in number of new cases of cancer, largely the result of the aging population. However, the expected increase in the supply of oncologists will not meet the rising demand.<sup>60</sup> Employers need to keep this mind in the upcoming years as they make decisions about their physician networks. If the physician network is not wide enough, out-of-network providers may be used more commonly. Employers can work with their network providers to expand the network. Data warehouses may be able to help employers find out what services are needed for which segments of the population.

### **3. Educate employees about clinical trials and remove potential barriers to participation:**

Patients often have misconceptions about the benefits of clinical trials and may not see the value in participating in one. Educating employees about clinical trials equips them with the information they need to make fully informed decisions about their course of treatment.

Employers can educate employees about clinical trials in many different ways, including:

- Providing tools and resources developed by cancer organizations and the National Cancer Institute to help employees learn about clinical trials.
- Designating a point person in Human Resources to provide employees with information about clinical trials, including links to the right resources.<sup>61</sup>
- Providing definitions and requirements for clinical trials in their summary plan description language.

- Removing potential barriers to clinical trial participation by determining and paying for allowed expenses.<sup>61</sup>

The following text box explains recommendations from the National Comprehensive Cancer Network (NCCN) about routine patient care costs for clinical trials.

## *NCCN Recommendations:*

### **Costs of Care in Clinical Trials**

According to NCCN, “routine” patient care costs for clinical trials include the following:

- Covered health services for which benefits are typically provided when not involved in a clinical trial.
- Covered health services required solely for the provision of the investigational item or service, clinically appropriate monitoring of the effects of the item or service or the prevention of complications.
- Covered health services needed for reasonable and necessary care arising from the provision of an investigational item or service.

Routine costs for clinical trials *do not include*:

- The experimental or investigational service or item.
- Items and services provided solely to satisfy data collection and analysis needs and that are not used in the direct clinical management of the patient.
- Items and services provided by the research sponsors free of charge for any person enrolled in the trial.

### **Issues for Employers about Reimbursement for Clinical Trials**

What is included is still controversial with employers and health plans. Employers can choose to include definitions and requirements for clinical trials in their summary plan description (SPD) language.

*NCCN recommends the following SPD language:*

An Approved Clinical Trial is a clinical trial that is funded, conducted or supported by centers or cooperative groups that are funded by any of the following:

1. National Institutes of Health (NIH), including the National Cancer Institute (NCI).
2. Department of Defense (DOD).
3. Department of Veterans Affairs (VA).
4. Agency for Healthcare Research and Quality (AHRQ).
5. Centers for Medicare & Medicaid Services (CMS).
6. Centers for Disease Control and Prevention (CDC).

*An Approved Clinical Trial must also meet the following requirements:*

1. The subject or purpose of the trial must include the evaluation of an item or service that falls within a covered benefit category.
2. The trial must include therapeutic intent among its objectives. Some clinical trials study prevention and diagnosis.
3. The trial must enroll patients with diagnosed disease rather than healthy volunteers.

**4. In order to enhance patient satisfaction, encourage employees to choose treatment facilities with Hospital Care Quality Information from the Consumer Perspective, or HCAHPS, survey data:**

HCAHPS uses a national standardized survey instrument and data collection methodology for measuring patients' perspectives on care. Specifically, the CAHPS® Hospital Survey enables patients to make comparisons across all hospitals. The CAHPS® Hospital Survey encompasses eight key topics:

- Communication with doctors;
- Communication with nurses;
- Responsiveness of hospital staff;
- Pain management;
- Communication about medicines;
- Discharge information;
- Cleanliness of the hospital environment; and
- Quietness of the hospital environment.

## Behavioral Health

**1. Ensure that employees with cancer and their families are screened for mental health and substance abuse disorders:**

Depression and anxiety are common among individuals with cancer, so patients should be screened regularly by oncologists, primary care providers and Employee Assistance Programs (EAPs) for these conditions.

- Up to one in four people with cancer have clinical depression. Clinical depression causes great distress, impairs functioning and may even make the person with cancer less able to follow their cancer treatment plan.<sup>65</sup>
- Caregivers who experience social and emotional burdens related to caregiving are at risk for problematic alcohol use and warrant attention from health care and mental health service professionals.<sup>22</sup>

Employers can provide access to specialized behavioral health providers that have experience counseling individuals with cancer and those caring for them.

- Contracted primary care providers, oncologists, treatment centers and EAPs should have a referral list of behavioral health specialists to use if further behavioral health evaluation and treatment are necessary.
- Employers can encourage smooth and easy provider transfers from EAPs to health and behavioral health providers.

## Palliative Care

Cancer is a disease that can fluctuate greatly, with patients experiencing good times and more difficult times. Patients may benefit from palliative care during those difficult times. Palliative care focuses on the relief of suffering, with the goal of ensuring the highest quality of life for the seriously ill person and family members.<sup>62</sup> Palliative care is provided by a team that integrates vital pain and symptom control into all stages of treatment. Members of the team may include doctors, nurses, pharmacists, social workers and chaplains. Palliative care services also tend to the psychological, spiritual, social, emotional and cultural needs of patients and their families.<sup>62</sup> Palliative care can be provided at any stage of illness and can be given simultaneously with curative treatment.<sup>62</sup>

Reasons for palliative care referral include the following:<sup>62</sup>

- Patient/family/physician needs help with complex treatment decision-making and determination of care goals.
- Patient suffers from physical, psychosocial or spiritual pain, or other symptom distress.
- Prolonged hospital stays without evidence of improvement.
- In hospitalized and seriously ill patients pain has been associated with:
  - Increased lengths of stay;
  - Longer recover time; and
  - Poorer patient outcomes.
- Withdrawal of life-support in the intensive care unit (ICU).
- Care of the dying patient and support of the family.

Palliative care can also help patients manage pain. About one-third of patients being treated for cancer experience pain.<sup>63</sup>

Cancer pain is very treatable and can increase a patient's quality of life. About nine out of ten cancer pain patients will find relief using a combination of medications.<sup>63</sup> Some drugs are general pain relievers, while others target specific types of pain. Pain management can take place in inpatient and outpatient settings.

According to a 2010 study in the *New England Journal of Medicine*, patients with metastatic lung cancer who received standard cancer care treatment and early palliative care had improvements in their quality of life, reduced depression and additional life expectancy compared to those receiving only standard cancer care.<sup>64</sup>

End-of-life care is a specific subset of palliative care provided in the months, weeks or days prior to death. It focuses entirely on palliation. End-of-life care can be provided by both hospice programs and by non-hospice care, across all medical settings, including in the hospital, at home and in nursing facilities.

For additional information on palliative and end-of-life care, please see the National Business Group on Health's toolkit entitled, *Impact of Advanced Illness on the Workplace: What Employers Need to Know*.

**2. Provide benefit coverage and ensure that providers adopt the key elements of “collaborative care” for patients who are diagnosed with a behavioral health disorder:** Patients who are referred to specialty behavioral health specialists by medical providers are not always appropriately monitored, and their treatment plans are not regularly reviewed. Similarly, often there is a lack of coordination and follow-up between medical providers and behavioral health specialists after a referral has been made. Ideally, behavioral health specialists who receive a referral should provide progress reports to the referring provider.

It is important for employers to provide in-network access to specialized behavioral health providers that have experience counseling individuals with cancer and those caring for them.

Research shows that individuals who received collaborative care had more depression-free days over a period of six months (87.7 days) than individuals who received usual care (70.9 days).<sup>66</sup> Although depression treatment costs were \$340 greater for individuals treated in the collaborative care group,<sup>66</sup> based on the outcomes, the additional cost for collaborative care treatment as well worth it.<sup>66</sup>

Key elements of collaborative care include:

- Patient screening and assessment for a behavioral health condition with the preparation of an initial treatment plan.
- Patient education and behavioral activation.
- Treatment (including pharmacotherapy).
- Follow-up and monitoring.
- Treatment adjustment and referral to a behavioral health specialist when appropriate.
- Consultation between a behavioral health specialist and primary care team, particularly for those patients who are not improving.

## Workplace Support and Services

**1. Promote the use of EAPs for employees and family members:**

EAPs are offered by many employers. EAPs are intended to help employees deal with personal problems that might adversely impact their work performance, health, and well-being. They generally include assessment, short-term counseling and referral services for employees and their household members.<sup>67</sup> EAPs can provide valuable resources for employees with cancer and their families such as the following:

- Health Education
  - Reducing cancer-related health risk behaviors.
  - Improving nutrition.
  - Addressing workplace stress.

- Emotional Support
  - Coping with a new diagnosis of cancer.
  - Dealing with the emotional issues of a cancer diagnosis.
  - Helping a loved one with cancer.
  - Locating cancer support groups.
  - Locating grief and bereavement support groups.
- Work/Life
  - Locating transportation support for assistance with doctor visits and treatment visits.
  - Locating child care.
  - Arranging financial assistance.
  - Coordinating legal assistance (estate planning, living will, power of attorney).
  - Helping with referrals for hospice care.
  - Planning assistance for funeral arrangements.

According to a 2007 survey conducted by The Hartford, a financial services and life insurance company, employees who accessed their EAP while on an STD leave claim returned to work twice as often at its conclusion as employees who did not have an EAP available to them. For employees with cancer who used the EAP, the duration of the STD claim was approximately 45 days compared to approximately 64 days for employees who did not use the EAP.<sup>68</sup>

**2. *Review STD and LTD policies and procedures:***

Treatment plans play a major role in recovery and returning to work for employees with cancer. Employers can ask disability plan administrators to verify that there is a documented treatment plan for employees who are on disability. In addition, employers can ensure that disability plan administrators, return-to-work programs and EAPs coordinate referral and treatment activities.<sup>69</sup>

**3. *Provide employees with information about Family Medical Leave:***

The Family Medical Leave Act (FMLA) requires employers with 50 or more employees to provide up to 12 weeks of unpaid, job-protected leave for family members who need time off to address their own serious illness or to care for a seriously ill child, parent or spouse. Employers can ensure that employees are aware of FMLA.<sup>70</sup>

**4. *Develop workplace Human Resource (HR) Policies related to serious illnesses, including cancer:***

Some employers choose to develop specific HR policies for employees with cancer or similar conditions that can present some of the same challenges. The purpose of a cancer in the workplace policy may include the following:<sup>71</sup>

- Establishing good practices in dealing with cancer in the workplace.
- Providing a framework for supporting employees affected by cancer.

- Providing guidance to managers on how to support employees affected by cancer and deal with employment issues.
- Providing managers and staff with resources and information about cancer treatment and workplace issues.
- Ensuring that employees are treated fairly and consistently.

Despite the benefits of establishing HR policies, a 2006 survey of approximately 200 organizations found that the vast majority of organizations surveyed (73%) do not have a formal policy for managing employees affected by cancer. In fact, only a third of organizations surveyed ensure that relevant staff has a good understanding of cancer and the impact of treatment on an individual in the workplace.<sup>72</sup>

**5. *Provide reasonable workplace accommodations for employees with cancer and other serious illnesses:***

Many employed cancer patients return to work after treatment. Workplace accommodations can play an important role in their return.

- According to a 2008 study of breast cancer survivors, 87% of women who perceived that their employer was accommodating were more likely to return to work.<sup>73</sup>
- Employees who are not offered alternative working arrangements during and following cancer treatment may be up to 15 times more likely to experience financial difficulties.<sup>74</sup>

Accommodations for employees with cancer may include:

- Gradual Return-to-Work;
- Part-time employment or telecommuting for a few weeks before resuming work full-time;
- Flexible Schedules; and
- Job Sharing.

**6. *Consider starting an on-site cancer support group or provide information about cancer support groups in the community:***

Cancer support groups help employees with cancer and their loved ones understand cancer, manage their lives through treatment and recovery and find the emotional support they need. Furthermore, Human

### *Human Resources Policies for Workplace Cancer*

A general workplace cancer HR policy may include the following:<sup>71</sup>

- Respect for the employee's dignity and privacy.
- Maintenance of employee involvement and engagement.
- Help for the employee to avoid severe financial problems.
- Efforts to provide employment benefits or income replacement (STD, LTD).
- An understanding, supportive and flexible approach.
- Continued access to development opportunities.
- Employee access to information and support.
- Help for the team affected by the employee's situation.

Resources can assist on-site cancer support groups by acting as a liaison between employees and management in order to ensure that employee needs are being met. Possible topics for on-site cancer support groups may include:

- Wellness;
- Nutrition;
- Emotional Health; and
- Caregiving.

#### ***7. Help employees with cancer manage the side effects of cancer:***

Cancer-related fatigue and difficulty concentrating can be reduced by:<sup>74</sup>

- Adjustments to working hours and alternative working arrangements (such as scheduling a person's work to avoid very physically demanding tasks and encouraging individuals to plan their work around times when they have the most energy);
- Return- to- work meetings; and
- Regular consultations about managing workload.

## Conclusion

As the workforce in the U.S. ages, more and more employees are being diagnosed with cancer. With improved treatments, many are living longer and are coming back to work if they can. Also, more employees are assuming the role of caregivers.

As a result, employers have to come to terms with the impact of cancer on the workplace. Changes that need to be made include providing preventive services, supporting employees during treatment and after they return to work, and addressing cost and productivity issues.

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# *Pathways to Managing Cancer in the Workplace*



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## **Written by:**

### **Wendy I. Slavit, MPH, CHES**

Manager

National Business Group on Health

### **Demian T. Kendall**

Program Assistant

National Business Group on Health

### **Pamela Rich**

Former Senior Program Generalist

National Business Group on Health

## **Principal Investigator:**

### **Ron Finch, EdD**

Vice President

National Business Group on Health

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National Business Group on Health  
20 F Street, N.W., Suite 200 • Washington, D.C. 20001  
Phone (202) 558-3000 • Fax (202) 628-9244 • [www.businessgrouphealth.org](http://www.businessgrouphealth.org)

Helen Darling, President, National Business Group on Health

## **About the National Business Group on Health**

The National Business Group on Health (the Business Group) is the nation's only non-profit organization devoted exclusively to representing large employers' perspective on national health policy issues and providing practical solutions to its members' most important health care and health benefits challenges.

Business Group members are primarily Fortune 500 companies and large public-sector employers – representing the nation's most innovative health care purchasers—that provide health coverage for more than 50 million U.S. workers, retirees and their families. The Business Group fosters the development of a safe, high-quality health care delivery system and treatments based on scientific evidence of effectiveness. Business Group members share strategies for controlling health care costs, improving patient safety and quality of care, increasing productivity and supporting healthy lifestyles.

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