OUT OF THE SHADOWS: WOMEN AND LUNG CANCER

Lung cancer kills more women than any other cancer—nearly 200 women each day. Most die within a year of diagnosis. Yet lung cancer remains the “hidden” women’s cancer—little known and rarely discussed. It is the least funded cancer in terms of research dollars per death of all the major cancers, and one of the only cancer where patients are routinely blamed as responsible for their condition. (i)

**LUNG CANCER OVERTOOK BREAST CANCER**
as the leading cause of cancer death among women in the United States in 1987 and now claims the lives of more women each year than breast, ovarian and cervical cancers combined.

**WITHOUT A DOUBT, LUNG CANCER IS A MAJOR HEALTH PROBLEM FOR WOMEN**
in the United States, not only owing to its high incidence rate but, more alarming, each the high mortality rate. (ii)

**THE OVERALL FIVE YEAR SURVIVAL RATE FOR WOMEN WITH LUNG CANCER REMAINS WELL BELOW THOSE OF OTHER WOMEN’S CANCERS.**

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**ESTIMATED CANCER DEATHS**
(2012)

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Estimated Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>72,590</td>
</tr>
<tr>
<td>Breast</td>
<td>39,510</td>
</tr>
<tr>
<td>Ovarian</td>
<td>15,500</td>
</tr>
<tr>
<td>Uterine</td>
<td>8,010</td>
</tr>
<tr>
<td>Cervical</td>
<td>4,220</td>
</tr>
</tbody>
</table>

**CANCER MORTALITY RATES IN WOMEN**
(PER 100,000)

<table>
<thead>
<tr>
<th>Year</th>
<th>Lung</th>
<th>Breast</th>
<th>Ovarian</th>
<th>Uterine</th>
<th>Cervical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>17.56</td>
<td>39.45</td>
<td>9.84</td>
<td>8.2</td>
<td>5.55</td>
</tr>
<tr>
<td>2009</td>
<td>17.56</td>
<td>39.45</td>
<td>9.84</td>
<td>8.2</td>
<td>5.55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Lung (woman only)</th>
<th>Breast</th>
<th>Ovarian</th>
<th>Uterin</th>
<th>Cervical</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>15.8</td>
<td>18.4</td>
<td>43.7</td>
<td>87.9</td>
<td>69.3</td>
</tr>
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Sources:
(i) “Out of the Shadows: Women and Lung Cancer”, prepared by the Mary Horrigan Conners Center for Women’s Health and Gender Biology, Brigham and Women’s Hospital, Harvard Medical School, April, 2010

The link between lung cancer and smoking is indisputable, but it should not hinder a comprehensive plan of action to reduce mortality. According to a national survey in 2006, over 60% of lung cancer patients had already quit smoking, 20.9% were current smokers and 17.9% had never smoked.

OVER 25,000 WOMEN WHO HAVE NEVER SMOKED WILL BE DIAGNOSED WITH LUNG CANCER THIS YEAR.

WOMEN, LUNG CANCER & SMOKING

Women with lung cancer have been consistently shown to (1) have smoked less on average (31 vs. 52 pack years), (2) be younger, (3) be 2 to 3 times more likely to have never smoked, and (4) get adenocarcinoma more often than their male counterparts. (iii)

MORE RESEARCH URGENTLY NEEDED

- The biology of lung cancer is different in women
- Mutations in certain genetic oncogenes are more common in women
- Non-smoking women have more growth factor receptors
- DNA repair capacity is lower in women than men
- Hormone replacement therapy may increase lung cancer risk in women
- Women respond to treatment differently than men

RESEARCH FUNDING LEVELS FISCAL YEAR 2012

<table>
<thead>
<tr>
<th>Cervical</th>
<th>Uterine</th>
<th>Ovarian</th>
<th>Breast</th>
<th>Lung</th>
</tr>
</thead>
<tbody>
<tr>
<td>$28,436</td>
<td>$4,933</td>
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<td>$26,398</td>
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</table>

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