

Public Outcomes Report Lung Cancer

2016

Based on
2015 data

Submitted by G. Brooks Brennan, MD

Lung cancer remains a significant factor in the morbidity and mortality of the United States population. There were approximately 224,000 people diagnosed with lung cancer in 2015. In addition lung cancer is the second most common cancer for both men and women (after prostate and breast, respectively) and is also the leading cause of cancer-related deaths for both men and women, attributing to 158,080 deaths in 2015. Lung cancer also represents a serious impact on medical and national economics with approximately \$5.5 billion spent for lung cancer treatment in 2015, more than any other cancer.

Lung cancer is divided into two major histological categories, non-small cell and small cell. The former is more common, accounting for approximately 85% of all lung cancer and is composed of adenocarcinoma, squamous and large cell subtypes. The small cell category typically grows faster and is more likely to spread to other parts of the body (metastasis). The category is critical in determining the appropriate treatment pathway.

Early diagnosis remains essential in maximizing treatment options and offers the best chances for therapeutic cure. Low-dose screening lung CT, at a fraction of dose of a standard chest CT, has been shown to be more sensitive at detecting small/early cancers as compared to chest x-ray. Surgery is a mainstay in treatment in lung cancer, particularly with early stages, but chemotherapy and radiation therapy are also often used, more so in later stages. There are minimally invasive options in lieu of surgery, such as radiofrequency ablation, that can be considered in patients not considered surgical candidates.

The Lima Memorial Health System (LMHS) Cancer Committee reviewed all lung cancer cases from 2010-2013 and compared LMHS data with the National Cancer Database (NCDB) data each year from 2010-2013. LMHS cared for 131 new cases of non-small cell lung cancer, 35 cases of small cell lung cancer and 7 cases designated as “other.”

Observations:

Figure 1: Age at diagnosis at LMHS mirrors Ohio and National data for non-small cell cancer diagnosis, with a moderate earlier age of diagnosis of small cell and “other” histologies as compared to the state of Ohio but is similar to the national data.

Figure 2: Gender of patients diagnosed with lung cancer shows a slight predominance to male for non-small cell (similar to national and Ohio data), moderate predominance for male with “other” histology and female predominance for small cell. The small cell ratios demonstrate more females are diagnosed at LMHS than males in contrast to national and state data comparisons.

Figure 3: Stage at time of diagnosis roughly matches state and national data trends for all stages; however, review of this data is significantly limited due to the relatively high number of “unknown” stage at LMHS over this time period (29% LMHS versus 4 % National versus 5% State of Ohio).

Figure 4: There is a slight difference in histology type at LMHS as compared to National and Ohio data. There is more adenocarcinoma and fewer squamous cell carcinoma histologies diagnosed at LMHS, as compared to both National and State of Ohio data.

Figure 5: “No first course treatment” remains high at LMHS as compared to National and State of Ohio trends. Of the other treatments, chemotherapy (with and without radiation therapy) is more common at LMHS than the rest of the nation and State of Ohio, while surgery alone for therapy at LMHS is less than National and State of Ohio data. This suggests that the clinical staging is higher at LMHS than in other parts of the nation and state. This could be clarified if the “unknown” stage was reduced (to better understand true staging at diagnosis).

With these observations in mind, continued improvement of the lung cancer screening and development of a pulmonary nodule management clinic/team are encouraged. Early detection and standardized patient management would provide a greater number of therapeutic options, particularly surgery (especially at the lower stages). Also, reducing the number of “unknown” stages through early diagnosis may clarify our relative stage percentages and enhance our ability to compare our data to national/state data.

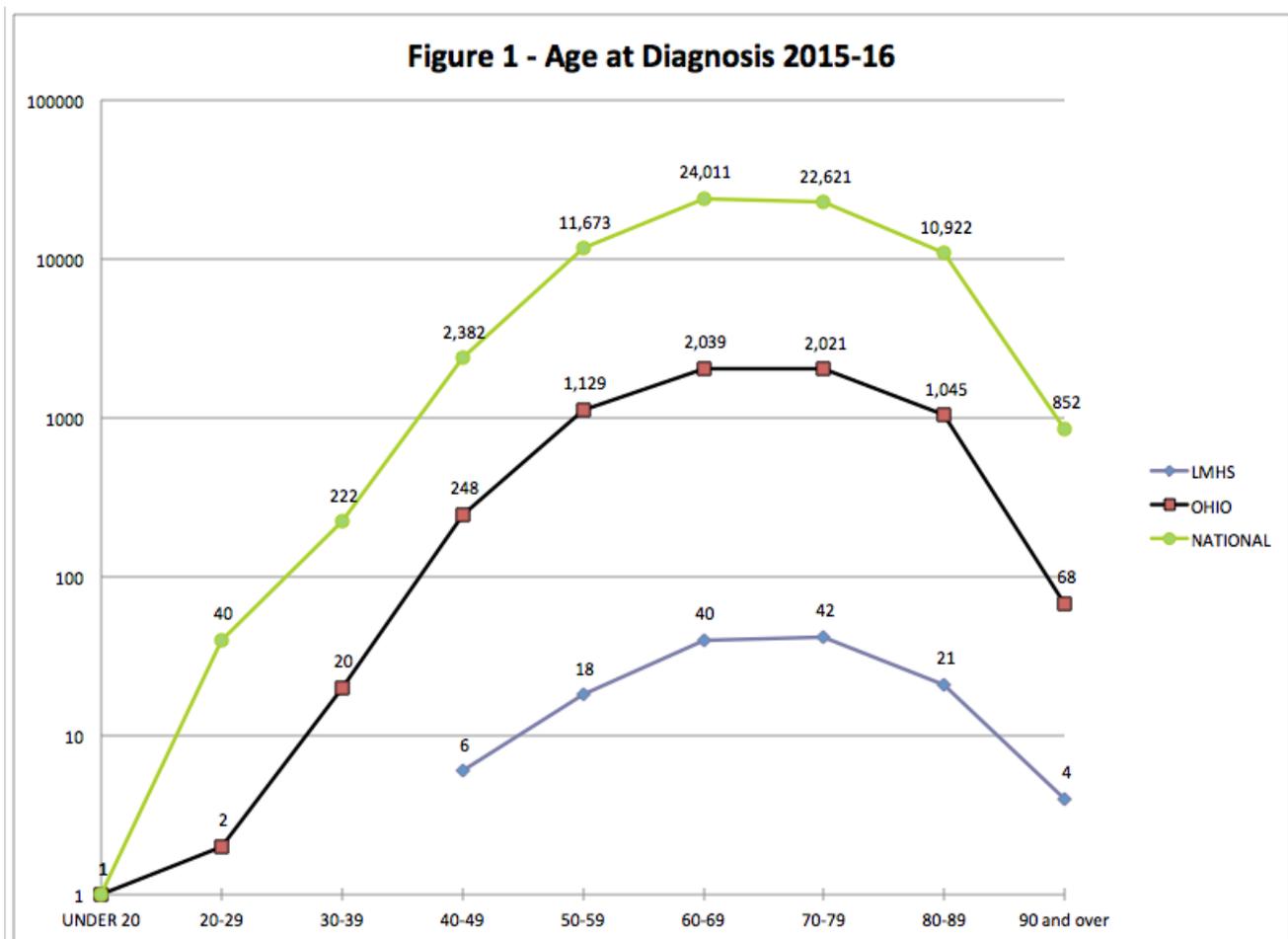


Figure 2 - Gender of Lung Cancer Patients

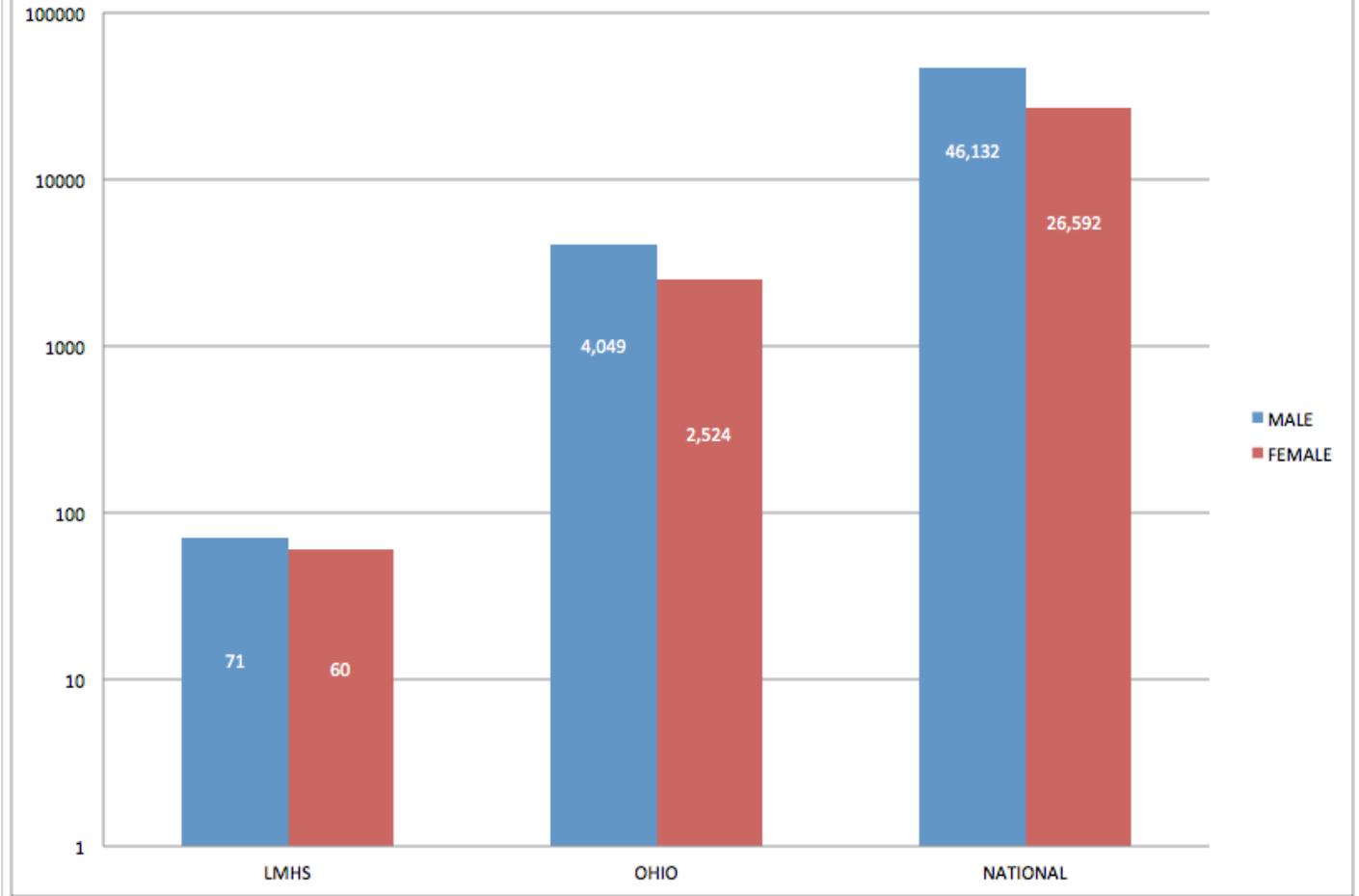


Figure 3 - Stage of Lung Cancer at Diagnosis 2015-16

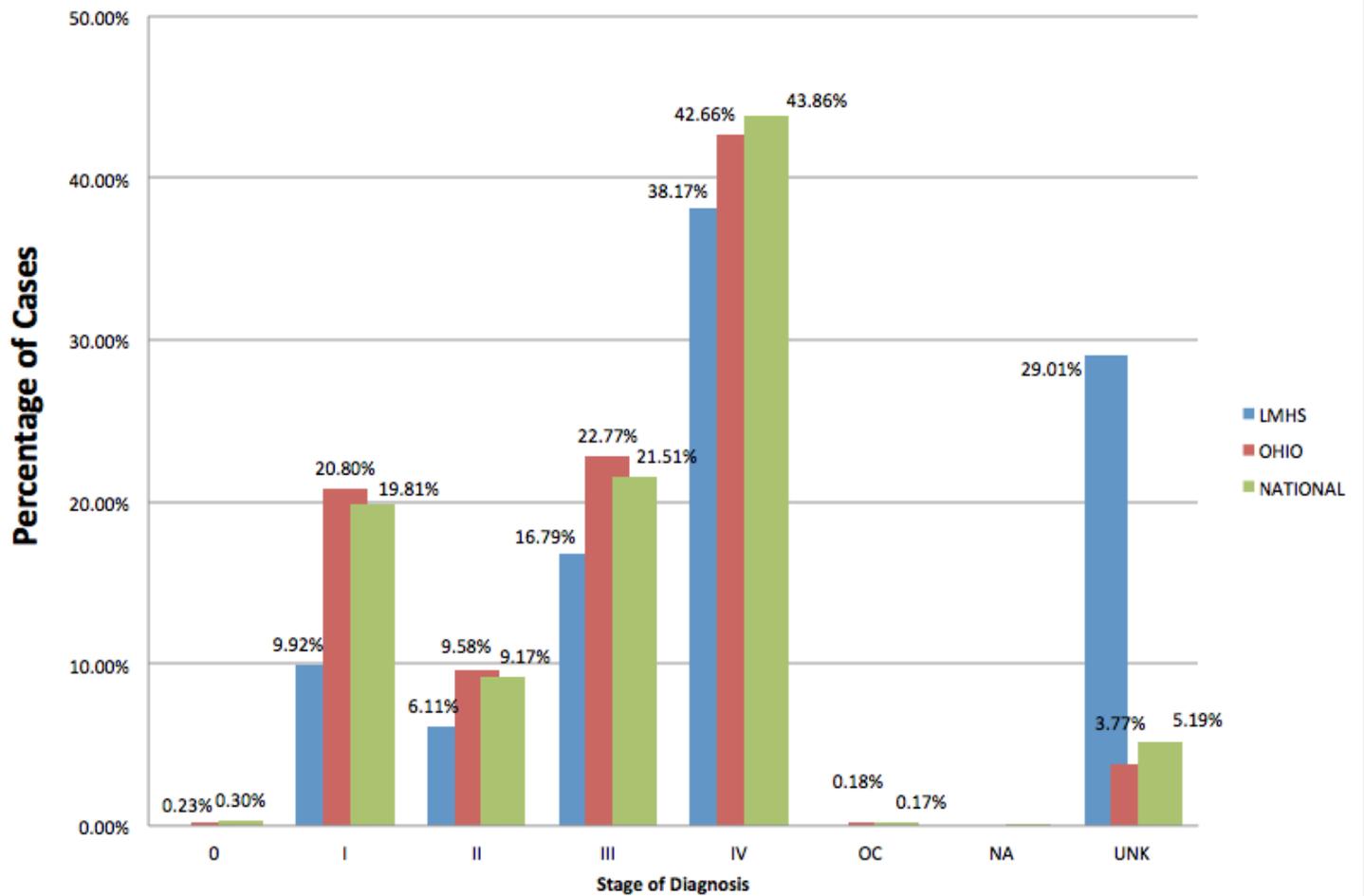


Figure 4 - Histologies Non-Small Cell Carcinoma

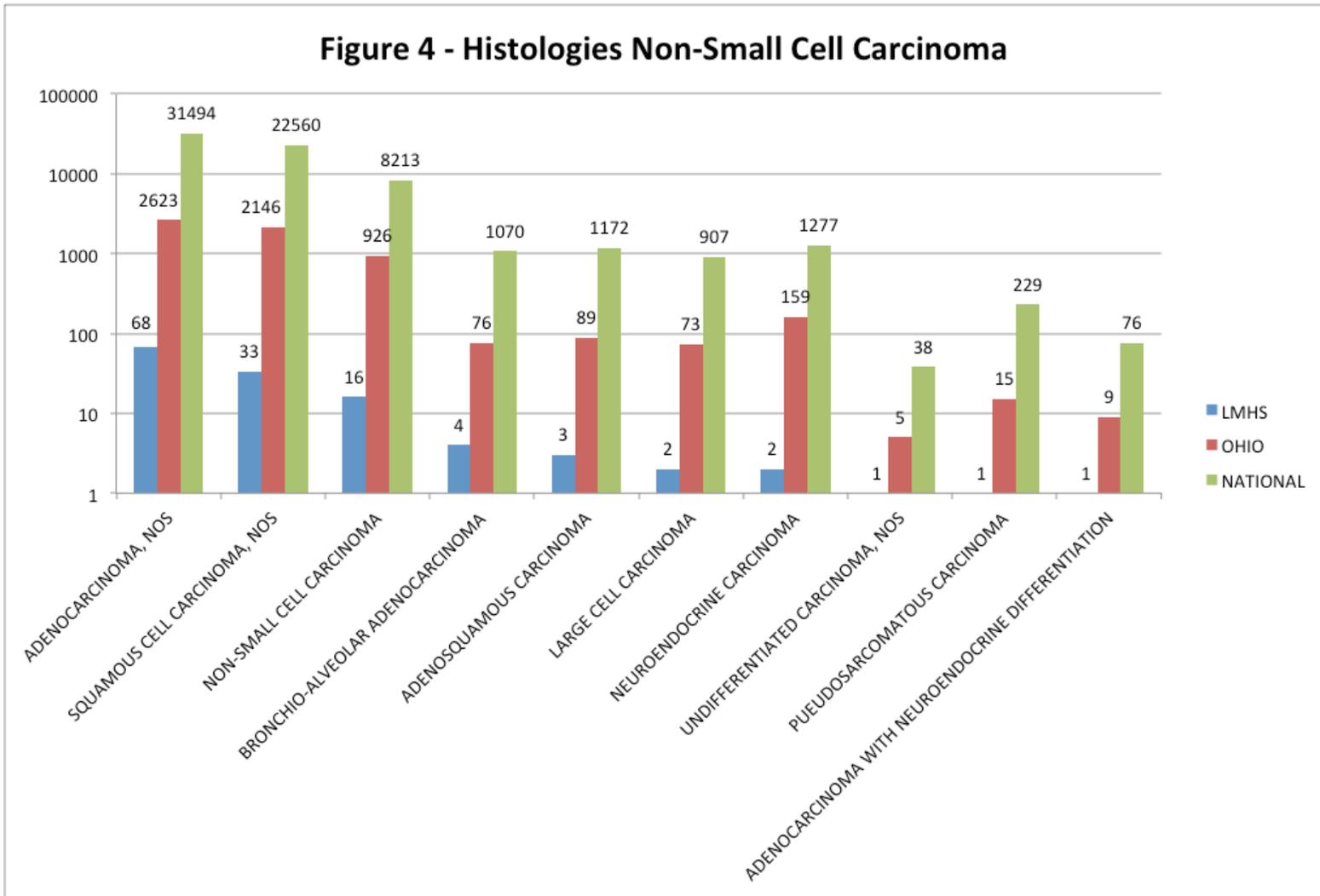


Figure 5 - First Course Treatment of Lung Cancer 2015-16

