

## Mon General 2012 Study of Lung Cancer Outcomes

Lung cancer is the leading cancer killer in both men and women in the United States. It surpassed breast cancer as the leading cause of death in women in 1987. In 2013, an estimated 226,000 new cases of lung cancer will be diagnosed. This represents 14% of all cancers. This is a disease of the elderly with 80% greater than 60 years of age. It is also the most common cancer worldwide.

Unfortunately, the 5 year survival rate for lung cancer is 16%. For patients who were diagnosed with localized lung cancer, the 5 year survival rate is 52%. Only 15% are diagnosed at an early stage. For those with metastatic disease, the 5 year survival rate is 5%. Over half of the patients diagnosed with lung cancer die within the first year of diagnosis.

The rate of new lung cancer cases for women has increased versus a decrease for men over the past 30 years. Though men still develop lung cancer more frequently.

The absolute primary risk factor for lung cancer is smoking, both active and secondhand smoking. Smoking accounts for at least 85 to 90% of all lung cancer, radon 10%, and other environmental exposures contribute to lung cancer development. Non-smokers have a 20 to 30% increase in lung cancer risk if exposed to smoke in the home or other environment.

Lung cancer may present with no symptoms, but symptoms may include shortness of breath, weight loss, cough, coughing up blood and chest pain.

Lung cancer is divided into two major classes, non-small cell lung cancer and small cell lung cancer. The non-small cell lung cancers account for 85% of all lung cancer cases. This includes 2 major types, nonsquamous cancer including adenocarcinoma, large cell cancer and squamous cell cancer. Adenocarcinoma is now the most common type of lung cancer. It is also the most common type in nonsmokers.

From 2007 until 2012, there were 300 analytical cases of non-small cell carcinoma diagnosed at Mon General Hospital. Of these cases 54.8% were men and 45.2% were women. The peak age range was 60 to 80 years, with 64% of the patient's being diagnosed in this age range. This is consistent with in the National Cancer Database, which shows 60% of patients being diagnosed in this age range as well.

By stage, 24% of the patients were stage I, 8% were stage II, 22% were stage III, 43% stage IV, and 5% uncertain. This also correlates to the National Cancer Database as well. There were 167 patients from Monongalia County and 63 patients from Preston County and other surrounding counties. In addition, there were 45 patients diagnosed with small lung cancer in this timeframe.

As noted, only 15% of lung cancer is detected at an early stage. Though our detection here was slightly higher than the national average, in an effort to improve earlier diagnosis of lung cancer, which hopefully will improve survival and detect patients at an earlier stage, Mon General Hospital now offers low dose CT scanning in high-risk patients as defined by the NCCN Guidelines. The NCCN Guidelines recommend low-dose helical CT scanning for select high-risk patients. These include current and former smokers between the ages of 50 to 74, with a greater than 30 pack-year history of smoking. Recent data from previous trials has shown a 20% decrease in lung cancer mortality with the use of low dose CT scanning compared to conventional chest x-ray. For those stage I patients found through this screening who underwent surgery, their survival rate was approximately 92% for stage I patients.

This screening cancer program is now available through Mon General Hospital. Also, the Zelda-Stein Weiss Cancer Prevention Program offers education and community service through workshops, lectures, advertising as well for this screening program, and also complications related to smoking and smoking cessation programs. The health fair further helps to educate the community regarding the complications of smoking and the benefit of low dose CT scan in high-risk patients.

It is hoped that all of these efforts will help to improve the overall prognosis of lung cancer, which still remains very dismal. First and foremost, smoking must be decreased. This will require much patient, physician, and community education to achieve our goal.

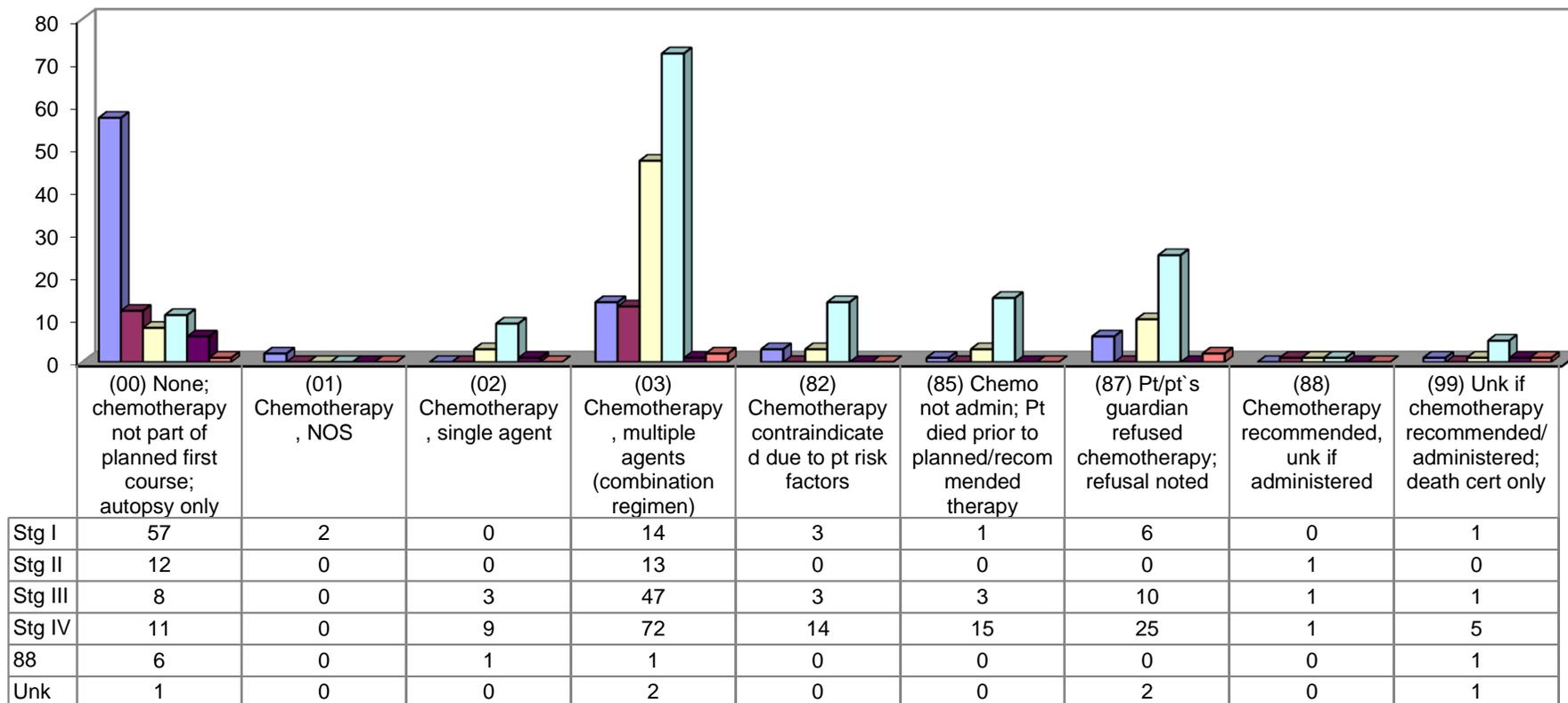
Sincerely,

Darrell Saunders, M.D.

crm/ 2500814

Resources: American Lung Association, NCCN Guidelines, NCDB Benchmark Reports

Mon General Chemotherapy by Stage 2007-2012



■ Stg I    ■ Stg II    ■ Stg III  
■ Stg IV    ■ 88    ■ Unk

MONONGALIA GENERAL HOSPITAL  
**Chemotherapy by Best CS/AJCC Stage Report  
lung 2007-2012**

6/18/2013 2:21PM

**Filter(s): Quick Filter: Primary Site: c340-c349 AND Behavior: 3 AND Year:1ST CONTACT YEAR 2007-2012 AND Class of Case: A AND ( CaseStatFlag = `C` ):**

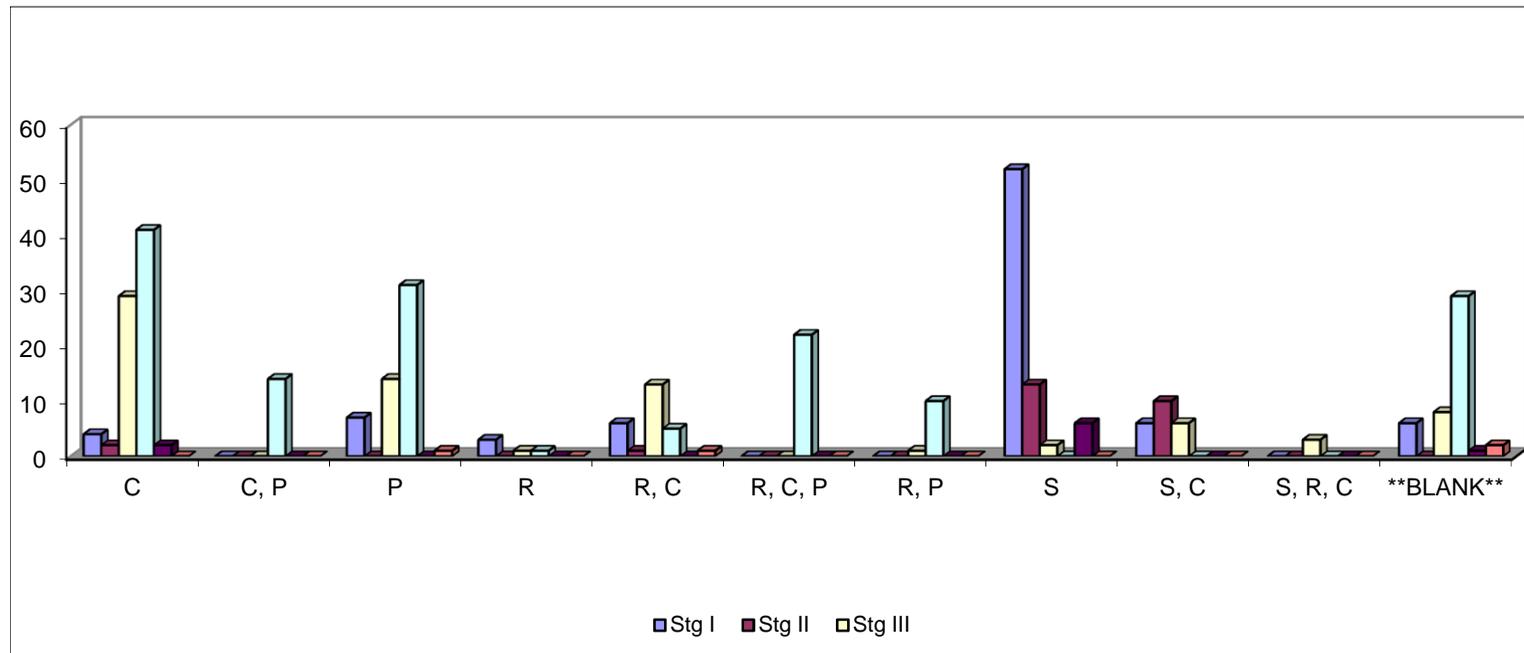
	Stg I	Stg II	Stg III	Stg IV	88	Unk	Total
(00) None; chemotherapy not part of planned first course; autopsy only	57 60 67.86	12 12.63 46.15	8 8.42 10.53	11 11.58 7.24	6 6.32 66.67	1 1.05 16.67	95
(01) Chemotherapy, NOS	2 100 2.38	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	2
(02) Chemotherapy, single agent	0 0 0	0 0 0	3 23.08 3.95	9 69.23 5.92	1 7.69 11.11	0 0 0	13
(03) Chemotherapy, multiple agents (combination regimen)	14 9.4 16.67	13 8.72 50	47 31.54 61.84	72 48.32 47.37	1 0.67 11.11	2 1.34 33.33	149
(82) Chemotherapy contraindicated due to pt risk factors	3 15 3.57	0 0 0	3 15 3.95	14 70 9.21	0 0 0	0 0 0	20
(85) Chemo not admin; Pt died prior to planned/recommended therapy	1 5.26 1.19	0 0 0	3 15.79 3.95	15 78.95 9.87	0 0 0	0 0 0	19
(87) Pt/pt's guardian refused chemotherapy; refusal noted	6 13.95 7.14	0 0 0	10 23.26 13.16	25 58.14 16.45	0 0 0	2 4.65 33.33	43
(88) Chemotherapy recommended, unk if administered	0 0 0	1 33.33 3.85	1 33.33 1.32	1 33.33 0.66	0 0 0	0 0 0	3
(99) Unk if chemotherapy recommended/administered; death cert only	1 11.11 1.19	0 0 0	1 11.11 1.32	5 55.56 3.29	1 11.11 11.11	1 11.11 16.67	9
Total	84	26	76	152	9	6	353
Count (N)	Row %	Column %					

**First Course Treatment by Best CS/AJCC Stage Report  
Lung Cancer 2007-2012**

**Filter(s): Quick Filter: Primary Site: c340-c349 AND Behavior: 3 AND Year:1ST CONTACT YEAR 2007-2012 AND Class of Case: A AND ( CaseStatFlag = `C` ):**

	Stg I	Stg II	Stg III	Stg IV	88	Unk	Total
C	4	2	29	41	2	0	78
	5.13	2.56	37.18	52.56	2.56	0	
	4.76	7.69	37.66	26.8	22.22	0	
C, P	0	0	0	14	0	0	14
	0	0	0	100	0	0	
	0	0	0	9.15	0	0	
P	7	0	14	31	0	1	53
	13.21	0	26.42	58.49	0	1.89	
	8.33	0	18.18	20.26	0	25	
R	3	0	1	1	0	0	5
	60	0	20	20	0	0	
	3.57	0	1.3	0.65	0	0	
R, C	6	1	13	5	0	1	26
	23.08	3.85	50	19.23	0	3.85	
	7.14	3.85	16.88	3.27	0	25	
R, C, P	0	0	0	22	0	0	22
	0	0	0	100	0	0	
	0	0	0	14.38	0	0	
R, P	0	0	1	10	0	0	11
	0	0	9.09	90.91	0	0	
	0	0	1.3	6.54	0	0	
S	52	13	2	0	6	0	73
	71.23	17.81	2.74	0	8.22	0	
	61.9	50	2.6	0	66.67	0	
S, C	6	10	6	0	0	0	22
	27.27	45.45	27.27	0	0	0	
	7.14	38.46	7.79	0	0	0	
S, R, C	0	0	3	0	0	0	3
	0	0	100	0	0	0	
	0	0	3.9	0	0	0	
**BLANK**	6	0	8	29	1	2	46

	13.04	0	17.39	63.04	2.17	4.35	
	7.14	0	10.39	18.95	11.11	50	
Total	84	26	77	153	9	4	353
Count (N)	Row %	Column %					



354 total analytic cases

MONONGALIA GENERAL HOSPITAL

Age at Diagnosis (in years)

analytic lung 2007-2012

Age at Diagnosis (in years)

0 - 29  
30 - 39  
40 - 49  
50 - 59  
60 - 69  
70 - 79  
80 - 89  
90+

Count (N) Percent (%)

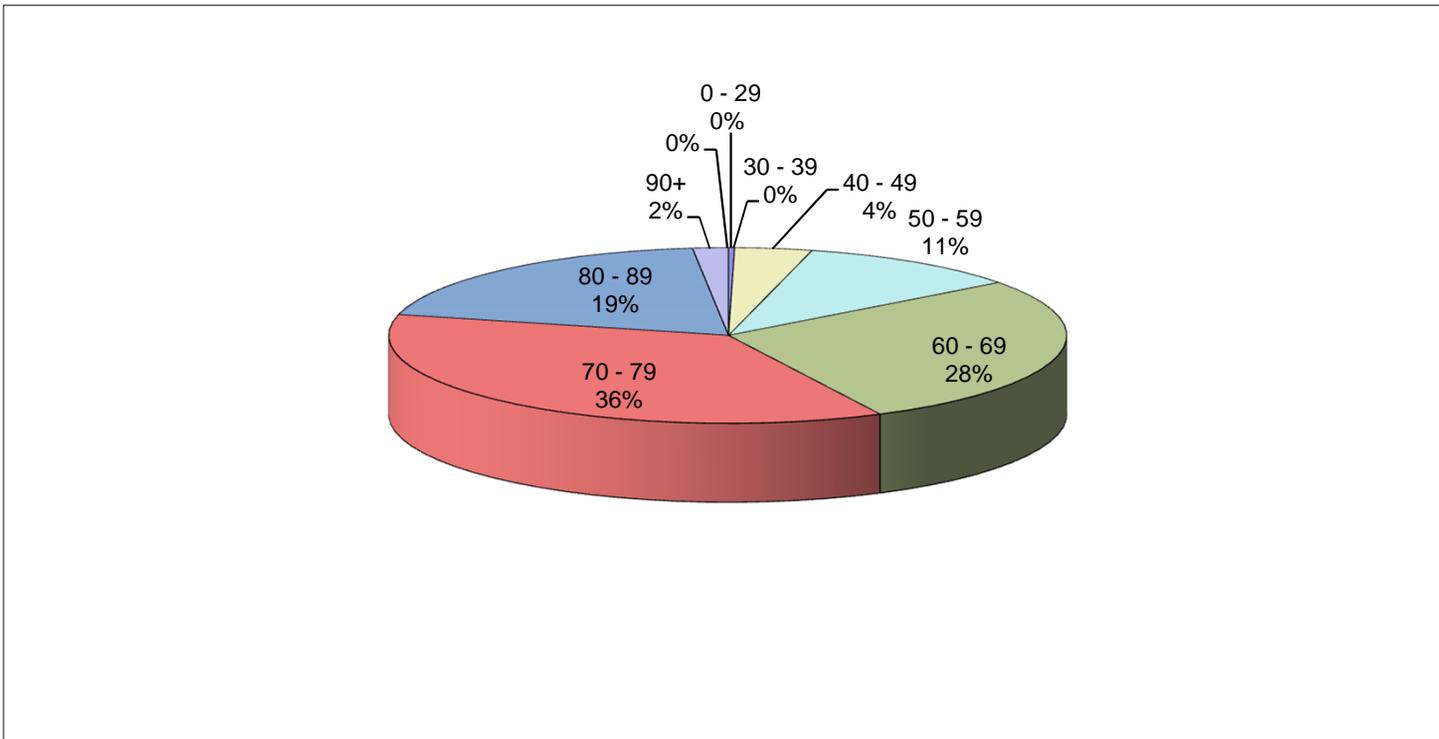
1 0.28%  
0 0.00%  
13 3.67%  
38 10.73%  
99 27.97%  
128 36.16%  
69 19.49%  
6 1.69%

Total

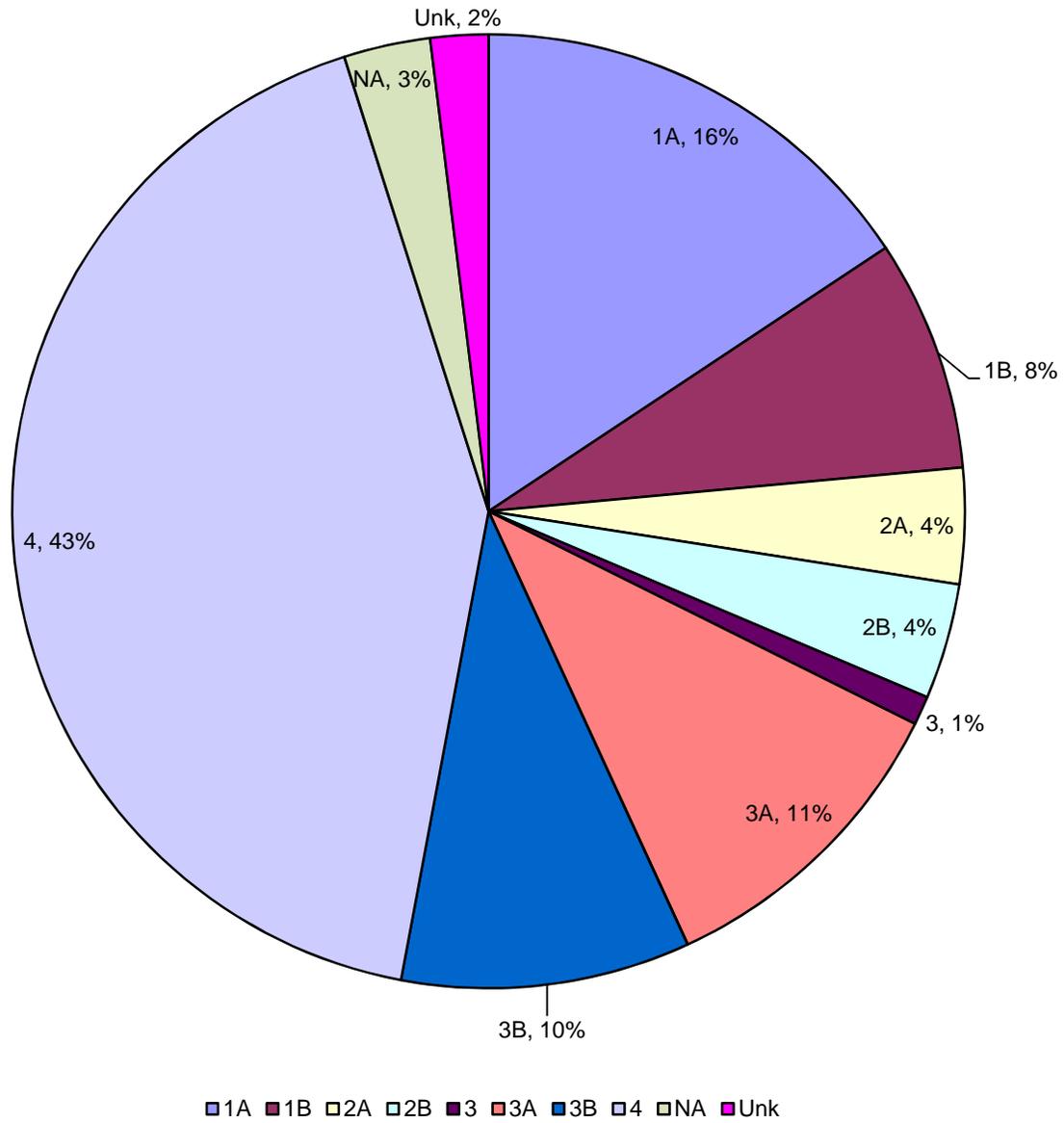
354 100.00%

Range:

Mean:



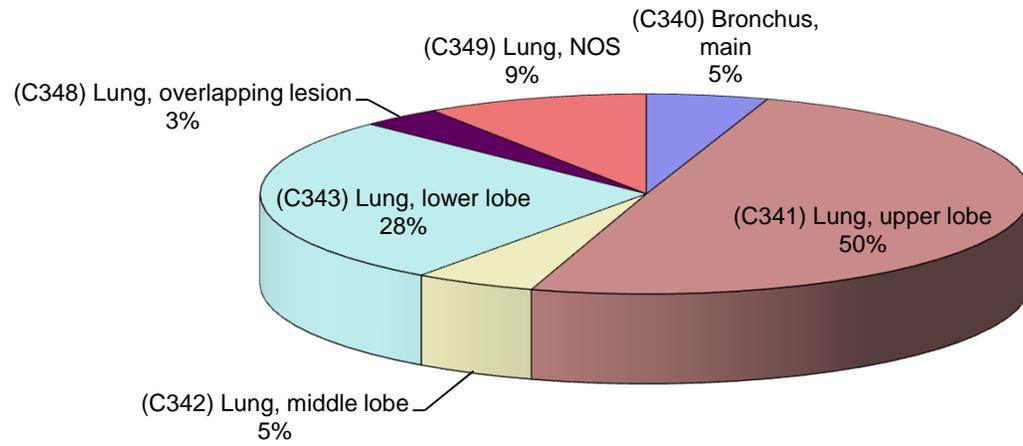
Mon General Lung Cases 2007-2012 by AJCC Stage



MONONGALIA GENERAL HOSPITAL  
AJCC Stage Report  
lung 2007-2012

<b>Best CS/AJCC Stage Report</b>	<b>percent rounded</b>	<b>Percent (%)</b>	<b>Count (N)</b>
1A	16%	16.10%	57
1B	8%	7.63%	27
2A	4%	3.67%	13
2B	4%	3.67%	13
3	1%	0.28%	1
3A	11%	11.30%	40
3B	10%	9.89%	35
4	43%	43.22%	153
NA	3%	2.54%	9
Unk	2%	1.69%	6
Total	100%	100.00%	354

Mon General 2007-2012 Lung Cancer by Subsite



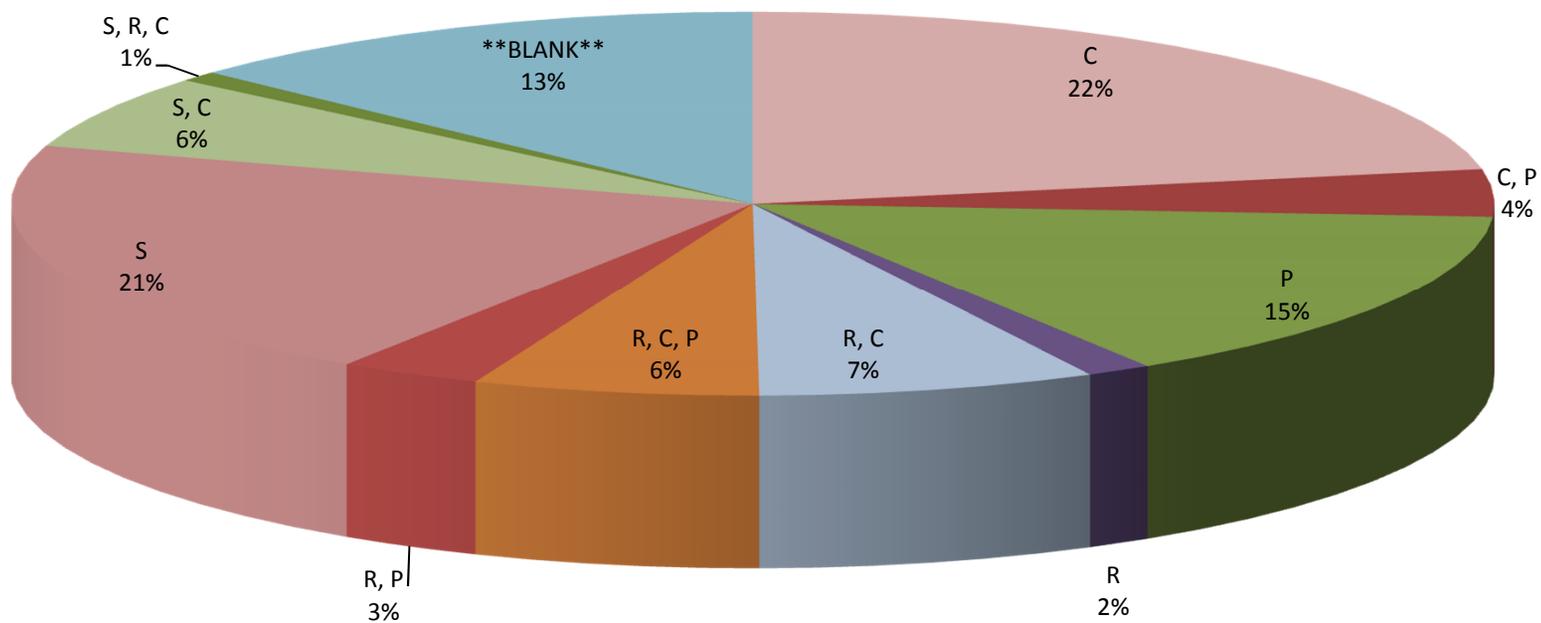
MONONGALIA GENERAL HOSPITAL 6/12/2013 9:11AM

**Subsite**

**lung 2007-2012**

<b>Subsite</b>	<b>Count (N)</b>	<b>Percent (%)</b>
(C340) Bronchus, main	18	5.08%
(C341) Lung, upper lobe	176	49.72%
(C342) Lung, middle lobe	18	5.08%
(C343) Lung, lower lobe	97	27.40%
(C348) Lung, overlapping lesion	12	3.39%
(C349) Lung, NOS	33	9.32%
Total	354	100.00%

## Mon General Lung Cancer 2007-2012 1st Course of Treatment without Diagnostic Codes



S= surgery, C= chemo, R= Radiation, P=Palliative, Blank= diagnosed only and/or no treatment given

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7/9/2013 2:08PM

**First Course Treatment  
lung cancer 2007-2012**

**Filter(s): Quick Filter: Primary Site: c340-c349 AND Behavior: 3 AND Year:1ST CONTACT YEAR 2007-2012 AND Class of Case: A AND ( CaseStatFlag = `C` ):**

<b>First Course Treatment</b>	<b>Count (N)</b>	<b>Percent (%)</b>
C	78	22.10%
C, P	14	3.97%
P	53	15.01%
R	5	1.42%
R, C	26	7.37%
R, C, P	22	6.23%
R, P	11	3.12%
S	73	20.68%
S, C	22	6.23%
S, R, C	3	0.85%
**BLANK**	46	13.03%
Total	353	100.00%

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**Gender**

**analytic 2007-2012**

**354 total cases**

**Sex**

(1) Male

(2) Female

(3) Other (hermaphrodite)

(4) Transsexual

(9) Not stated

Total

**Count (N)**

194

160

0

0

0

354

**Percent (%)**

54.80%

45.20%

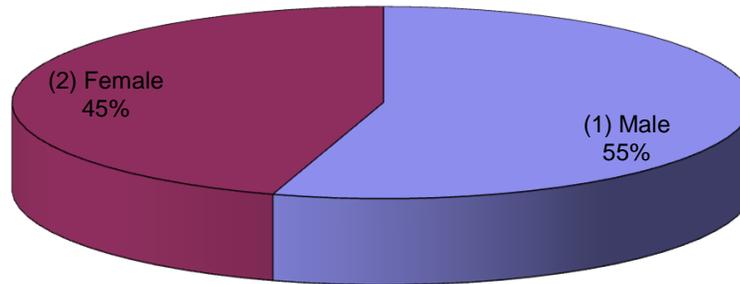
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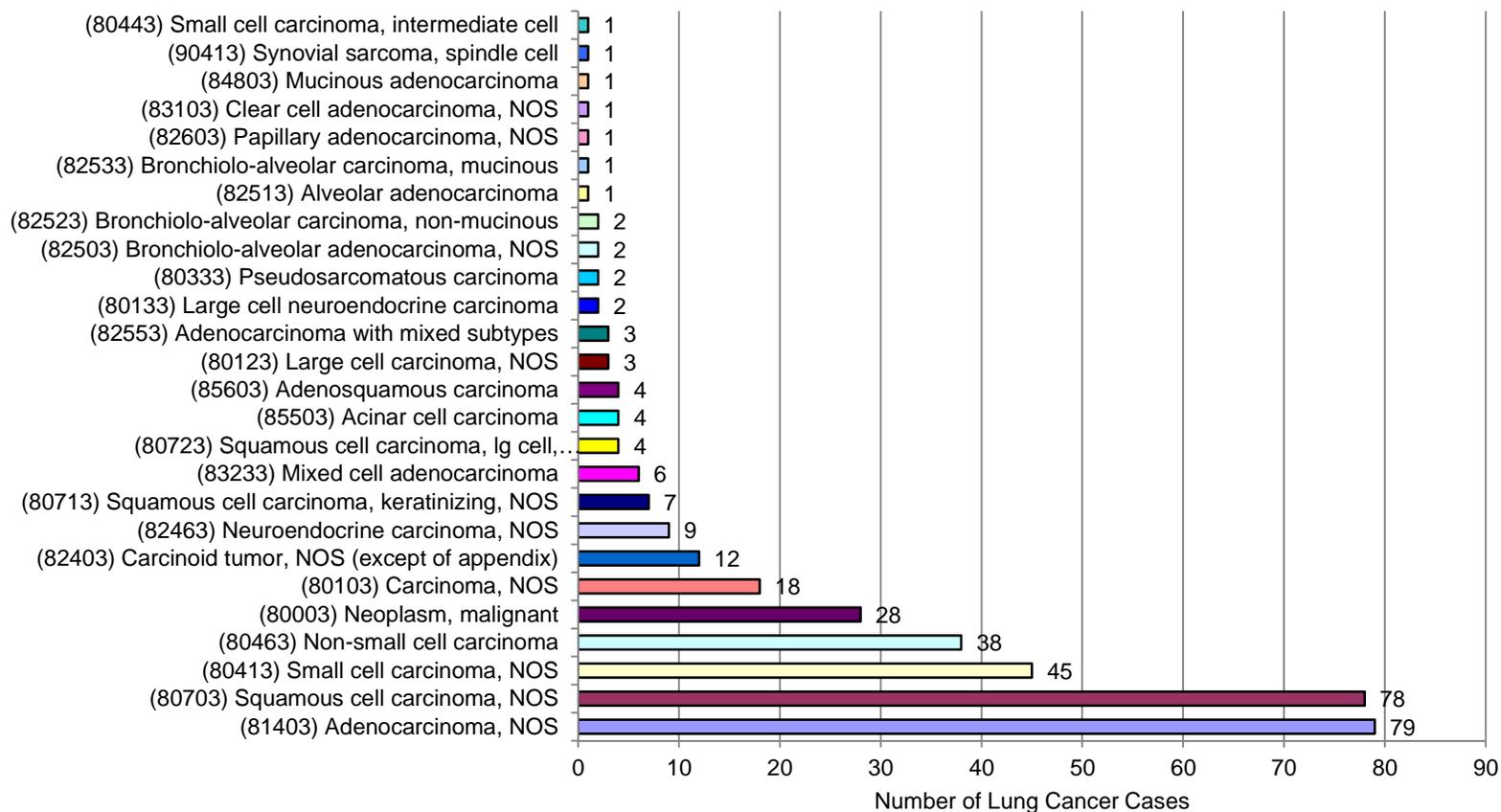
0.00%

100.00%

Mon General 2007-2012 Lung Cancers by Gender



### Mon General 2007-2012 Lung Cancer by Histology



Total Analytic Cases 354

**Histology/Behavior****lung 2007-2012****Filter(s): Quick Filter: Primary Site: c340-c349 AND Behavior: 3 AND Year:1ST CONTACT YEAR 2007-2012 AND I**

<b>Histology/Behavior</b>	<b>Count (N)</b>	<b>Percent (%)</b>
(81403) Adenocarcinoma, NOS	79	22.32%
(80703) Squamous cell carcinoma, NOS	78	22.03%
(80413) Small cell carcinoma, NOS	45	12.71%
(80463) Non-small cell carcinoma	38	10.73%
(80003) Neoplasm, malignant	28	7.91%
(80103) Carcinoma, NOS	18	5.08%
(82403) Carcinoid tumor, NOS (except of appendix)	12	3.39%
(82463) Neuroendocrine carcinoma, NOS	9	2.54%
(80713) Squamous cell carcinoma, keratinizing, NOS	7	1.98%
(83233) Mixed cell adenocarcinoma	6	1.69%
(80723) Squamous cell carcinoma, lg cell, nonkeratinizing, NOS	4	1.13%
(85503) Acinar cell carcinoma	4	1.13%
(85603) Adenosquamous carcinoma	4	1.13%
(80123) Large cell carcinoma, NOS	3	0.85%
(82553) Adenocarcinoma with mixed subtypes	3	0.85%
(80133) Large cell neuroendocrine carcinoma	2	0.56%
(80333) Pseudosarcomatous carcinoma	2	0.56%
(82503) Bronchiolo-alveolar adenocarcinoma, NOS	2	0.56%
(82523) Bronchiolo-alveolar carcinoma, non-mucinous	2	0.56%
(82513) Alveolar adenocarcinoma	1	0.28%
(82533) Bronchiolo-alveolar carcinoma, mucinous	1	0.28%
(82603) Papillary adenocarcinoma, NOS	1	0.28%
(83103) Clear cell adenocarcinoma, NOS	1	0.28%
(84803) Mucinous adenocarcinoma	1	0.28%
(90413) Synovial sarcoma, spindle cell	1	0.28%
(80443) Small cell carcinoma, intermediate cell	1	0.28%
(91003) Choriocarcinoma, NOS	354	100.00%
Total		

MONONGALIA GENERAL HOSPITAL

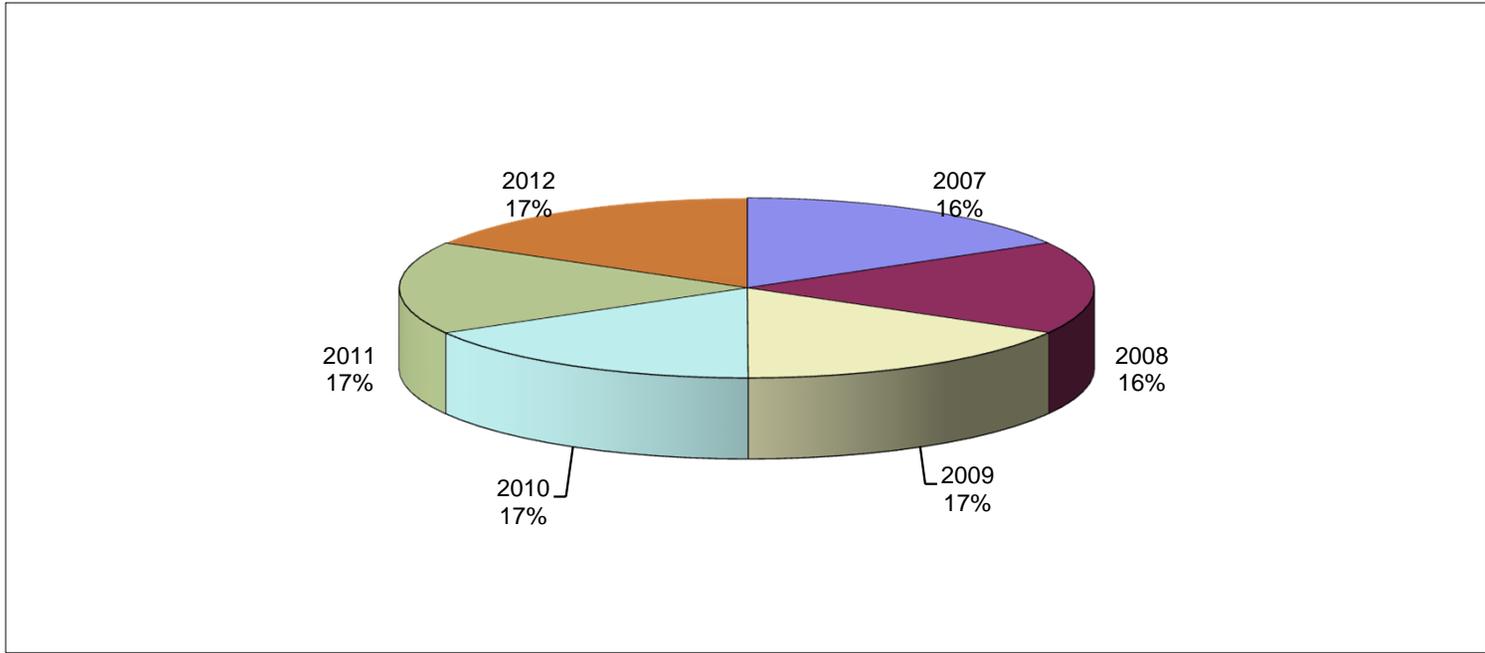
Yr First Seen This Prim

lung 2007-2012

Filter(s): Quick Filter: Primary Site: c340-c349 AND Behavior: 3 AND Year:1ST CONTACT YEAR 2007-2012 AND Class of Case: A AND ( CaseStatFlag = `C` ):

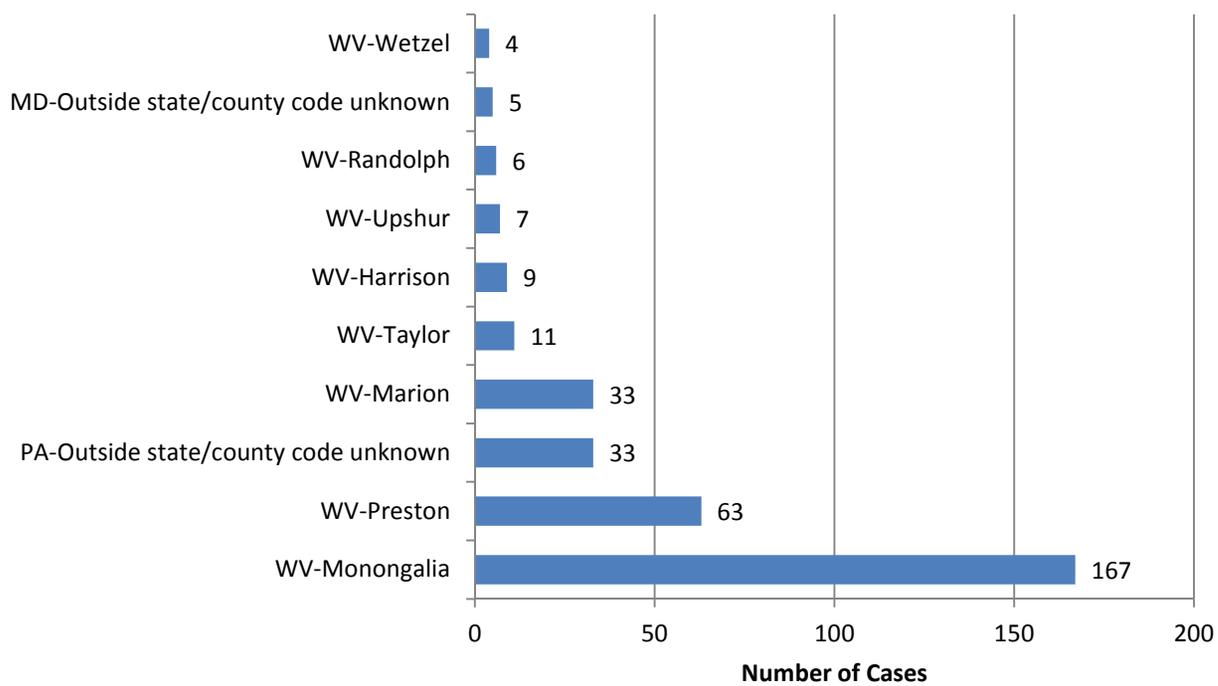
Yr First Seen This Prim

Yr First Seen This Prim	Count (N)	Percent (%)
2007	52	14.69%
2008	58	16.38%
2009	60	16.95%
2010	55	15.54%
2011	66	18.64%
2012	63	17.80%
Total	354	100.00%



354 total analytic cases

## Mon General Lung Cancer 2007-2012 Top 10 Counties at Diagnosis



**County at Diagnosis  
analytic lung 2007-2012****Filter(s): Quick Filter: Primary Site: c340-c349 AND Behavior: 3 AND Year:1ST CONTACT YEAR 2007-2012 A**

<b>County at Diagnosis</b>	<b>Count (N)</b>	<b>Percent (%)</b>
WV-Monongalia	167	47.18%
WV-Preston	63	17.80%
PA-Outside state/county code unknown	33	9.32%
WV-Marion	33	9.32%
WV-Taylor	11	3.11%
WV-Harrison	9	2.54%
WV-Upshur	7	1.98%
WV-Randolph	6	1.69%
MD-Outside state/county code unknown	5	1.41%
WV-Wetzel	4	1.13%
WV-Barbour	3	0.85%
WV-County unknown	3	0.85%
WV-Grant	2	0.56%
WV-Tucker	2	0.56%
PA-Fayette	1	0.28%
PA-Greene	1	0.28%
WV-Hardy	1	0.28%
WV-Lewis	1	0.28%
WV-Pocahontas	1	0.28%
WV-Webster	1	0.28%
Total	354	100.00%