

Travel distance in a rural setting prolongs time to thoracic surgery evaluation but not time from evaluation to treatment for operable lung cancers

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Disclosure

- ▶ I have no actual or potential conflict of interest in relation to this program/presentation.



Background

- ▶ Prompt surgical resection is the treatment of choice for most early stage lung cancer
- ▶ Lung cancer surgery at higher volume facilities is associated with:
 - ▶ Greater likelihood of minimal invasive resection
 - ▶ Lower complication rates
 - ▶ More accurate staging lymphadenectomies
- ▶ In rural areas, travel distance may pose a barrier to lung cancer treatment at a specialized facility
- ▶ We hypothesized that greater distances between residence and treatment center is associated with longer time to diagnostic evaluation and treatment of operable lung cancers at a specialized facility

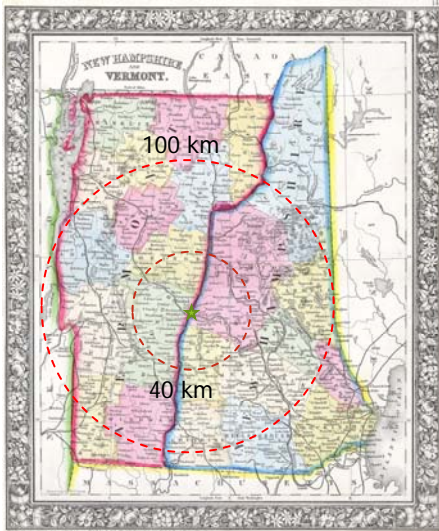


Methods

- ▶ Retrospective analysis of all patients undergoing surgery for proven or suspected lung cancer at Dartmouth-Hitchcock Medical Center (DHMC) from January 2015 to December 2016 (n = 285)
- ▶ Patients were divided into three groups based on travel distance between home zip code and the hospital where surgical resection was performed
 - ▶ <40km
 - ▶ 40-100km
 - ▶ >100km
- ▶ Data points reviewed:
 - ▶ Location of detection imaging (DHMC vs outside institution)
 - ▶ Time from detection imaging to first visit with thoracic surgery
 - ▶ Time from initial evaluation to surgery
 - ▶ Number of tests performed preoperatively



Demographics and geographic groupings



Representative towns...

- ▶ < 40 km: Lebanon, Hanover, Fairlee, Woodstock, Claremont, Plymouth
- ▶ 40 - 100 km: Montpelier, Concord, Littleton, Laconia
- ▶ > 100 km (120/285): Burlington, Berlin, Portsmouth, Manchester, Western Massachusetts

Results



- ▶ Days from detection of lesion to initial visit with thoracic surgeon

	Detected at DH	Detected outside	P value
<40 km	36.5	26.9	0.34
40-100 km	19.3	36.6	<0.001
> 100 km	26.3	43.2	<0.001
Overall	27	40	<0.001

- ▶ Days from surgical evaluation to resection of lesion

	Detected at DH	Detected outside	P value
<40 km	25.6	21	0.5
40-100 km	25.1	29.4	0.3
>100 km	24.9	28.1	0.4
Overall	25.2	28.4	0.2

Results



- ▶ Number of diagnostic test performed prior to surgical resection

	Detected at DH	Detected Outside	P value
<40km	2.9	4.3	0.007
40-100km	2.7	3.8	<0.001
>100km	2.9	3.4	0.03
Overall	2.8	3	<0.001

- ▶ All patients: CT scan, PET
- ▶ Selected patients: Brain MRI, Bronchoscopic biopsy, EBUS, CT-guided biopsy
- ▶ Doesn't include PFTs, cardiac stress test

Discussion



- ▶ Overall time to surgery at DHMC is increased in patients residing further from our hospital. The delays occurred prior to evaluation by the surgeon
- ▶ There was a significant difference with greater
- ▶ The average time to evaluation by a surgeon was surprisingly prolonged for patients living close to DHMC and detected at this facility
- ▶ Patients initially worked up outside DHMC had about one additional pre-operative test
- ▶ Once the patient is evaluated, time to surgical resection is not affected by distance

Why does distance delay surgical evaluation?

- ▶ Many patients are dependent on family members to transport them to clinic appointments
- ▶ Distant clinic visits are likely to require taking an entire day away from work rather than just a few hours
- ▶ Do patients traveling further to be evaluated undergo more diagnostic workup prior to initial surgical evaluation?



Limitations and critiques

- ▶ Distance to facility does not necessarily correlate to remoteness of residence
- ▶ Although the psychosocial impact of delaying care may be important, the clinical significance of a 2-3 week delay is likely minimal
- ▶ For patients living in close proximity to DHMC, why is the time to evaluation longer for those diagnosed internally in comparison to those diagnosed at outside facilities?



Questions for further research

- ▶ Does travel by surgeons to outlying clinics shorten time to surgical evaluation?
- ▶ How does scheduling preoperative diagnostic tests prior to face-to-face evaluation by a surgeon impact cost effectiveness of treatment?
- ▶ Does travel distance deter some rural patients from undergoing treatment at a specialized cancer center?



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