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Achieving Commission on Cancer Operative Standard 5.8 for Primary Lung Cancer Resections

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Abstract

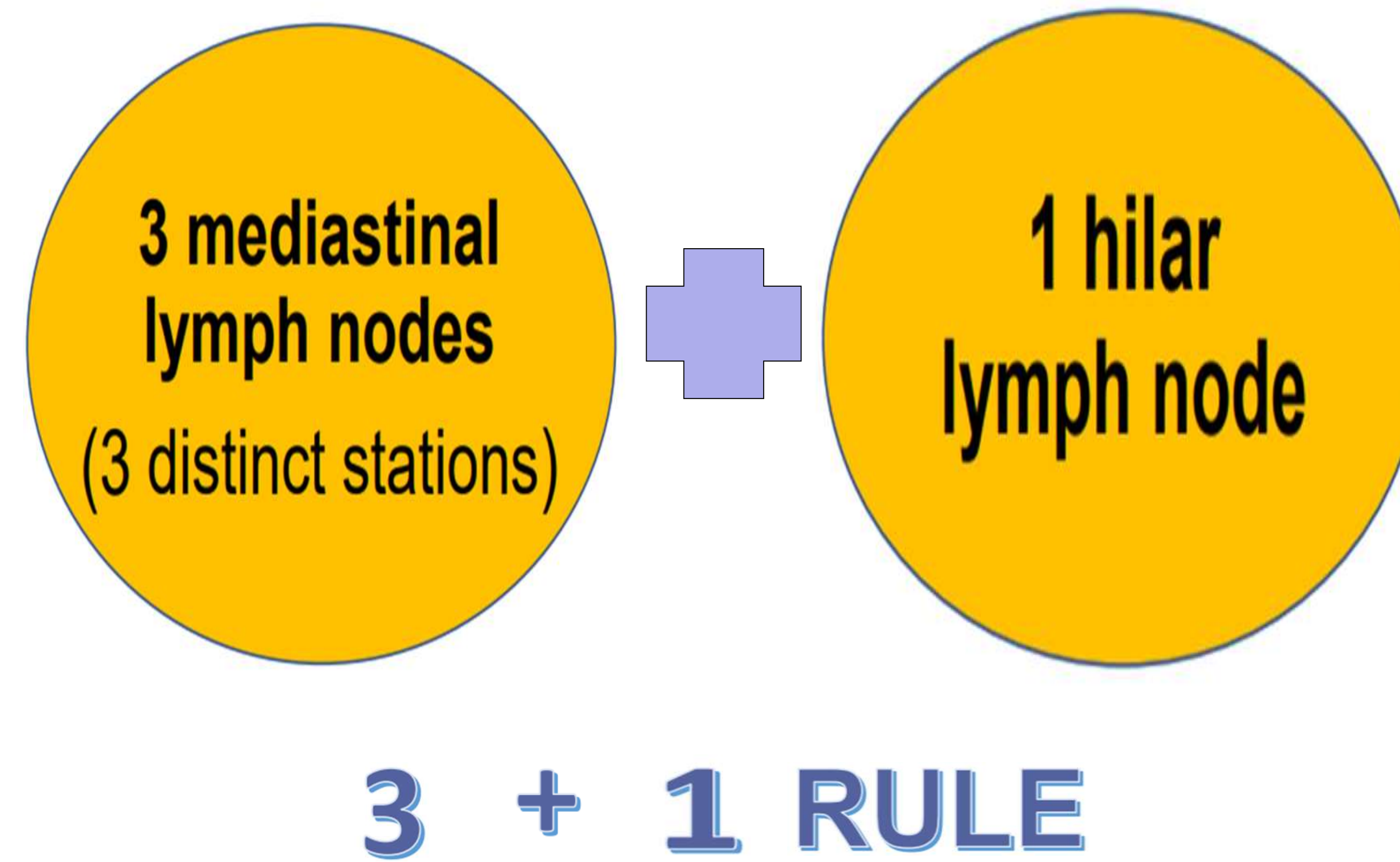
Introduction: Compliance with the Commission on Cancer (CoC) Operative Standard 5.8 Pulmonary Resection results in longer patient survival and better surgical outcomes. The CoC operative standard calls for all curative intent lung cancer resections to have at least 3 mediastinal lymph node stations in addition to at least 1 hilar station sampled at the time of resection at a minimum rate of 80%. Our project aim was to meet or exceed this standard by having all practicing thoracic surgeons at Henry Ford Hospital routinely achieve a minimum of 3+1 nodal station sampling on 80% of all primary lung cancer resections for pneumonectomy, lobectomy, segmentectomy and wedge. Anatomic pulmonary resection, achieving an R0 margin, and compliance with CoC 5.8 has been shown to improve survival in surgical patients by 14% for non small cell lung cancer².

Methods: A retrospective analysis of prospectively collected data on all therapeutic resections for lung cancer at a single institution between 2021-2023 were reviewed. An intraoperative process change was implemented for all surgeons to follow whereby a "time out" occurs prior to case completion. The circulating nurse reads back all nodal stations sampled. If 3+1 sampling is not achieved, the surgeon reexamines nodal stations prior to case closure. Surgical cases are abstracted and entered in the data base approximately 45 days after surgery. Compliance rates per surgeon are communicated by the Database Manager directly to the Surgeon Champion and subsequently communicated to the primary surgeons. This was done continuously over the focus period leading to increased compliance with Standard 5.8.

Results: 2021 data revealed baseline compliance of 69.5% with Standard 5.8. This increased to 79.2% in 2022 and an 85.2% compliance rate in 2023.

Conclusions: A concerted effort by the surgical team to implement a staged "time out" prior to conclusion of surgical cases resulted in increased compliance with the CoC Standard 5.8 at our institution.

Standard 5.8: Pulmonary Nodal Staging



Resection Critical Elements³:

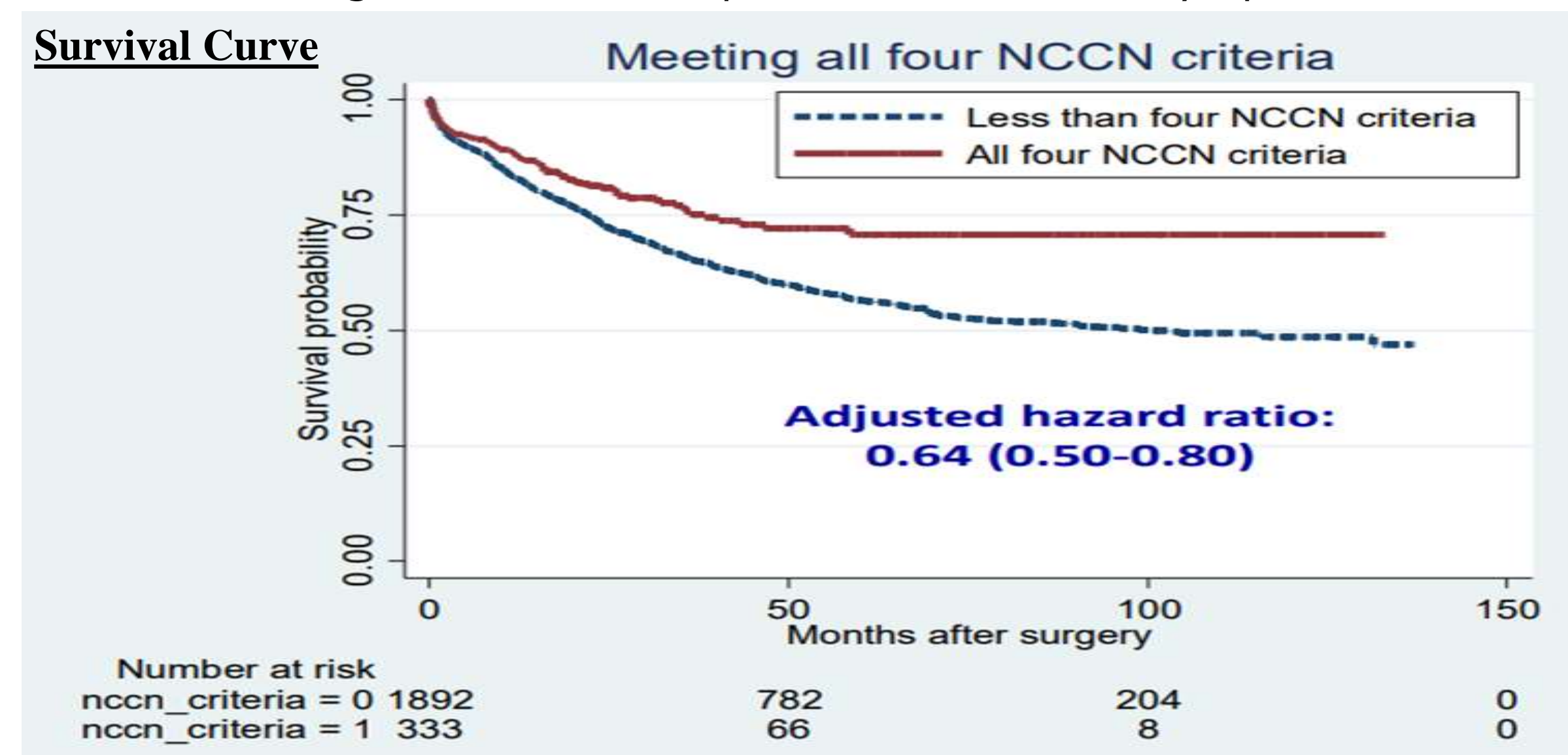
- Invasive pre-operative mediastinal staging for central tumors, clinical N1 disease and tumors greater than 3cm
- Confirmation of imaging findings at thoracic exploration
- **Mediastinal staging at the time of lung resection**

Any curative intent lung resection, including:

Non-small cell lung cancer
Small cell lung cancer
Carcinoid tumor

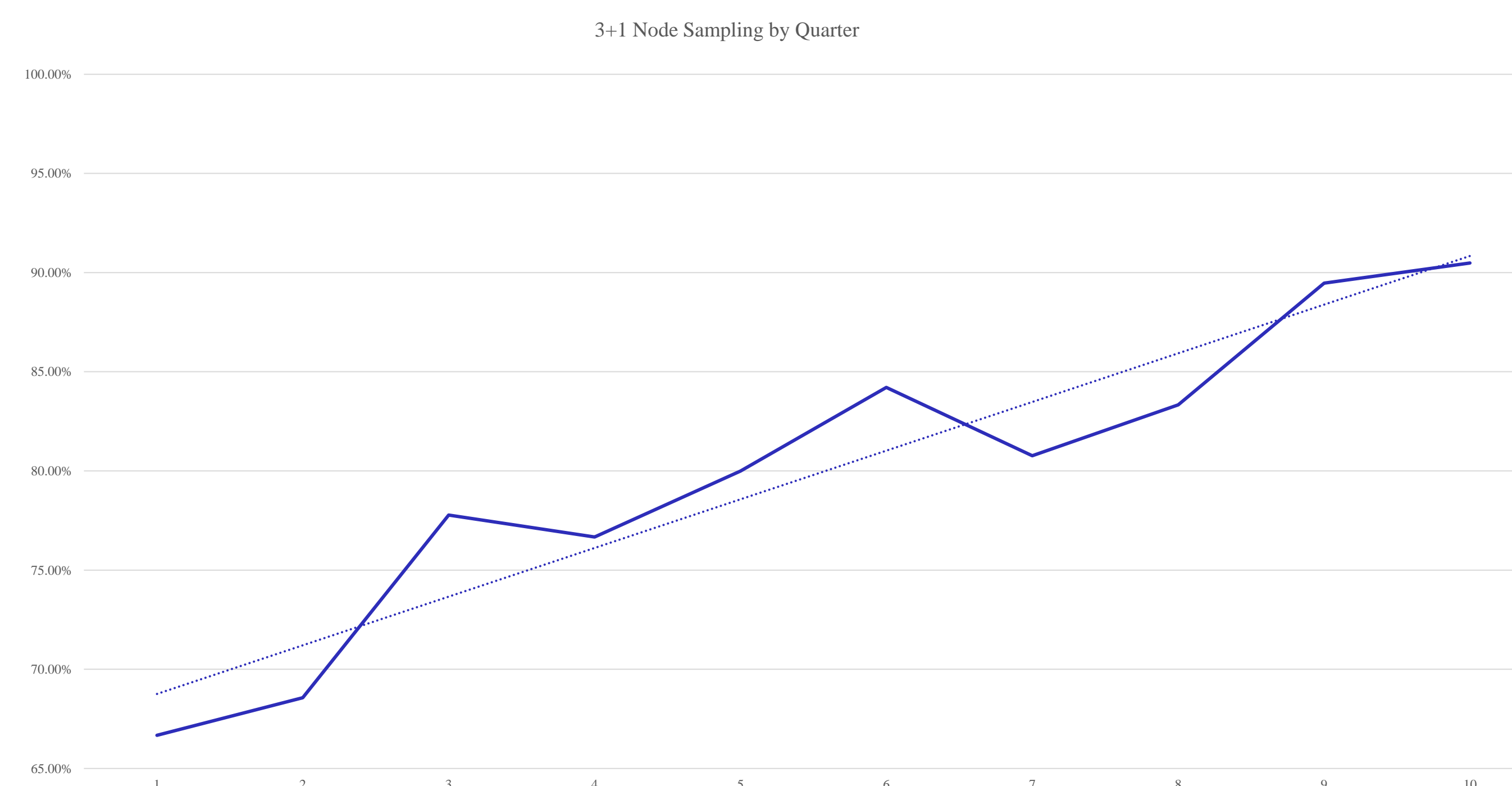
NCCN Guidelines for Resection

- Following National Comprehensive Cancer Network (NCCN) Guidelines improves patient survival. Guidelines include:
 1. Anatomic Resection
 2. Negative Margins (R0)
 3. Examination of hilar/intrapulmonary lymph node stations
 4. Examination of greater than or equal to 3 mediastinal lymph node stations



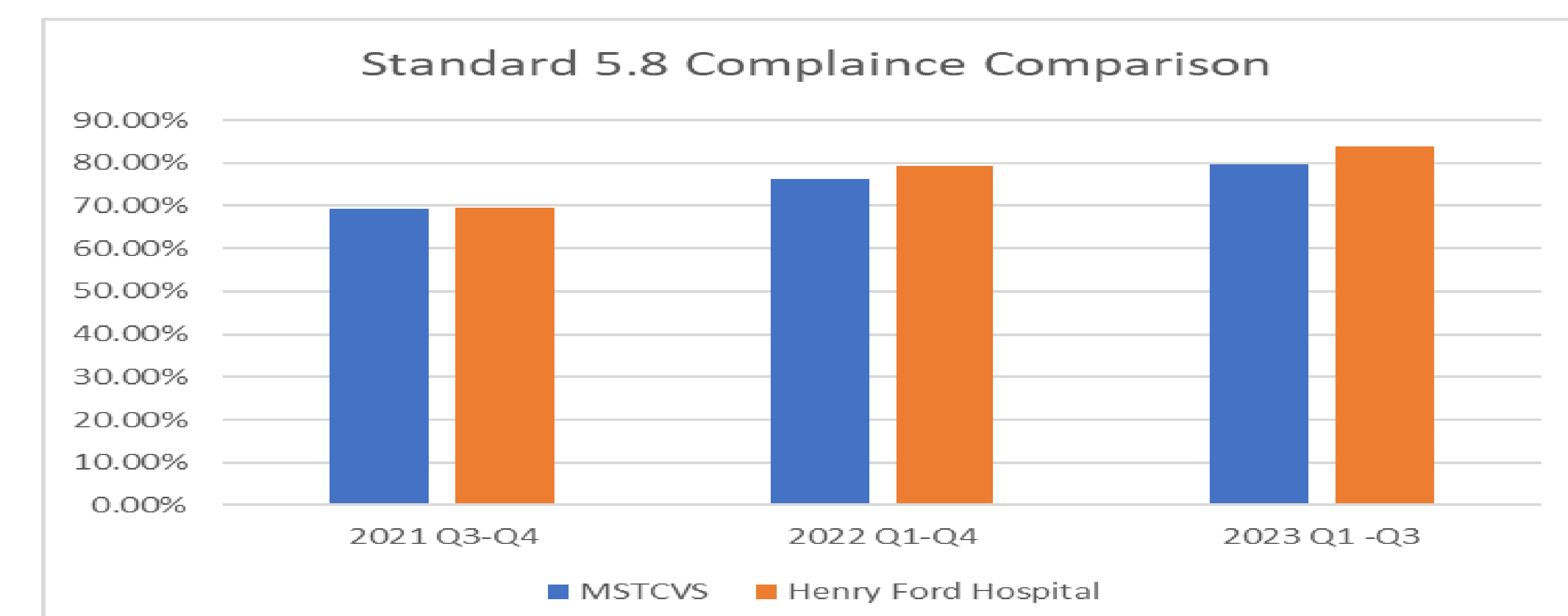
Henry Ford Hospital Compliance Rates

2021 (Q3-Q4): 69.5%
2022 (Q1-Q4): 79.2%
2023 (Q1-Q4): 85.2%



MSTCVS Quality Collaborative

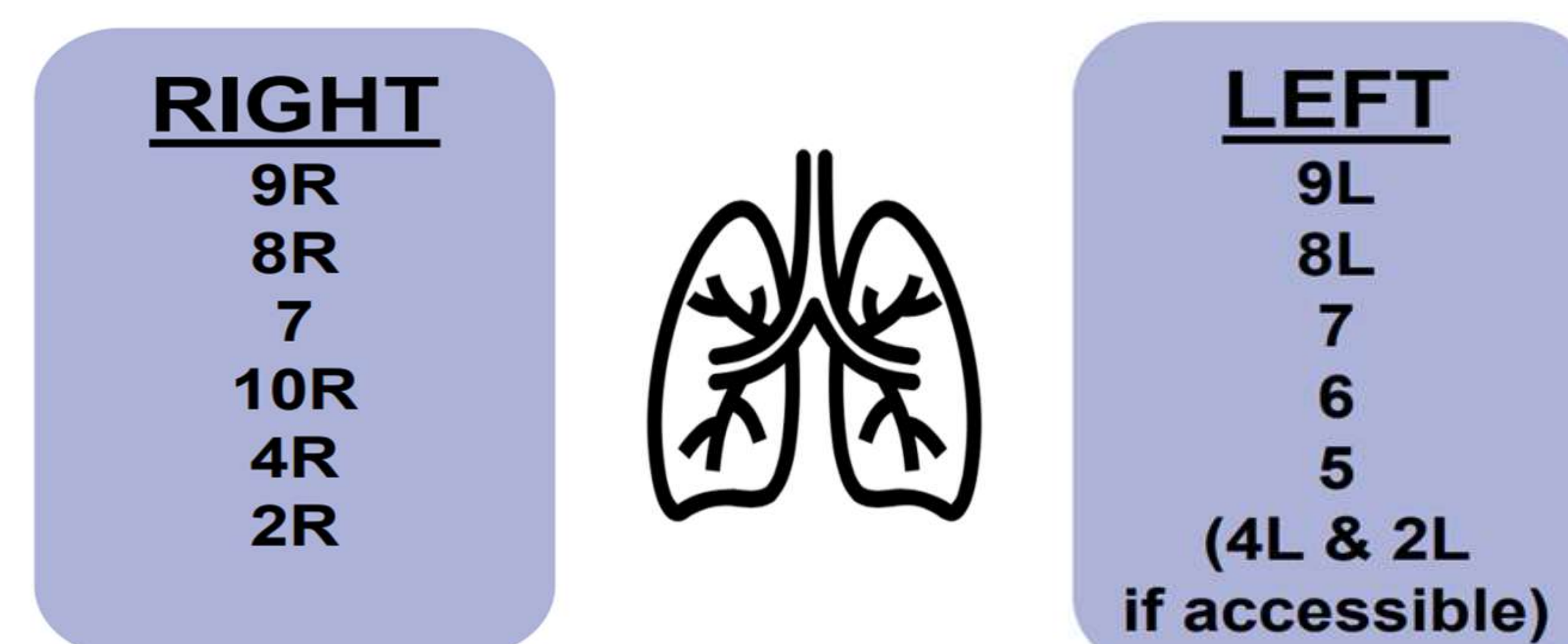
- The Michigan Society of Thoracic and Cardiovascular Surgeons (MSTCVS) Quality Collaborative is a multidisciplinary group of medical professionals dedicated to improving the care of adult cardiac and general thoracic surgery patients in Michigan.
- During quarterly Collaborative meetings, individual organization data is shared and independent strategies for quality improvement are discussed that lead to improvement in metrics across the State of Michigan.



Cycles of Learning

- **Plan:** A gap in compliance with COC Standard 5.8 was identified based upon data abstracted from the medical record. Institutional compliance with the standard was 69.5% in 2021. A plan was implemented for process improvement and an intraoperative "time out" was implemented to review nodal stations sampled and reexamine opportunities for additional sampling.
- **Do:** Implemented process change with continuous data feedback provided to the Surgeon Champion, and primary surgeons, and surgical team. This was done continuously through the reporting period.
- **Check:** Continuous evaluation of metrics on at least monthly basis with communication between Data Manager and Surgeon Champion.
- **Act:** Intraoperative "time out" has become a standard workflow of the primary surgeons.

Lymph Node Stations



Mediastinal stations: Single digit (2-9) **Hilar stations:** Double Digit (10+)

Bibliography

1. Nelson, H, Hunt KK, Veeramachaneni N, et al. Operative standards for Cancer Surgery, Volume 1. Chicago, IL: Wolters Kluwe; 2015.
2. Osarogiagbon RU, Miller LE, Ramirez RA, et al. Use of a surgical specimen-collection kit to improve mediastinal lymph-node examination of resectable lung cancer. Journal of Thoracic Oncology. 2012 Aug; 7(8):1276-82.
3. Osarogiagbon RU, Ray MA, Faris NR, et al. Prognostic value of National Comprehensive Care Network Lung cancer resection quality criteria. Annals of Thoracic Surgery. 2017;103: 1557-65.