

Improving Care for Patients With Stage III/IV NSCLC: Learnings for Thoracic Surgeons and Radiation Oncologists From a National Quality Survey

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INTRODUCTION

- Multidisciplinary teams (MDTs) could help optimize quality of care by enhancing patient involvement in decision-making, timely care delivery, accurate staging, and appropriate treatment planning¹
- Evolving treatment modalities for stage III and IV non-small cell lung cancer (NSCLC) warrants multidisciplinary collaborations²
 - Thoracic surgeons (TSs), radiation oncologists (ROs), and medical oncologists (MOs) as part of MDTs could play major roles in defining unresectability, diagnosis and treatment planning, and management of patients with inoperable stage III and stage IV NSCLC^{3,4}
- A national survey of multidisciplinary specialists, including TSs, ROs, and MOs, was conducted to obtain insights into care of patients with advanced NSCLC across 160 U.S. community cancer programs

OBJECTIVES

- The discipline-specific analysis was performed to:
 - Investigate coordination and communication within the MDTs
 - Evaluate the understanding of evolving standards for diagnosis, biomarker testing, and treatment planning
 - Identify the barriers faced by TSs, ROs, and MOs for optimal care of patients with stage III/IV NSCLC
- The overarching goal of the survey was to identify the barriers and suggest improvements in practice patterns needed to ensure delivery of the highest quality of care for patients

METHODS

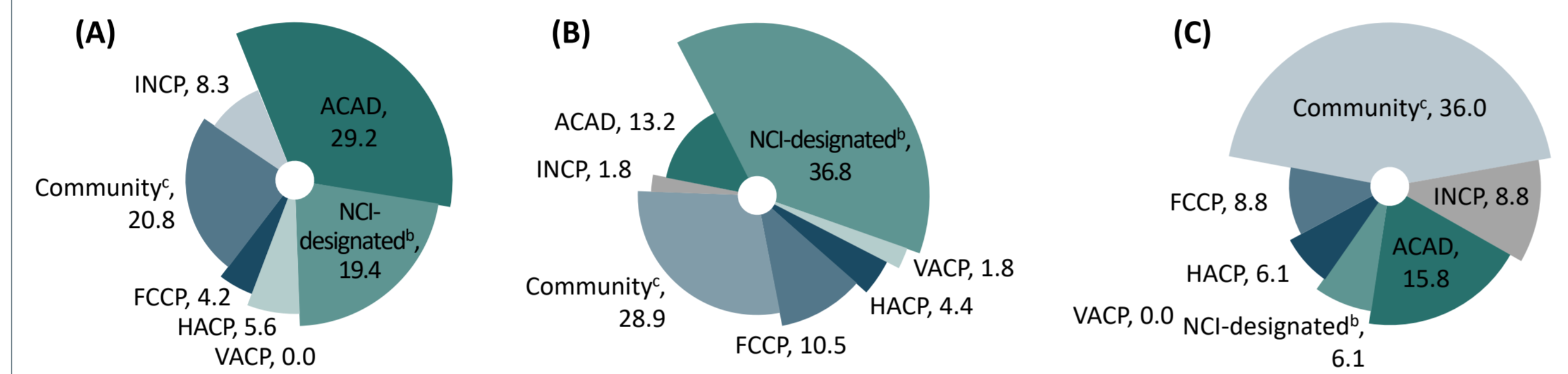
- A double-blind, web-based survey was conducted between January and April 2019
- Of the 108 questions, 70 were customized for TSs, ROs, and MOs
- Parameters assessed included:
 - Extent of participation in shared decision-making (SDM)
 - Definition and management of unresectable tumors
 - Adoption of clinical pathways (CPs)
 - Management of immune-related adverse events (irAEs)
 - Perceived barriers to advanced NSCLC care
- Pearson's chi-square cross tabulations and Fisher's exact test were used to analyze the responses

RESULTS

Participant disposition and demographic characteristics

- Overall, 639 respondents (TSs, 11.3% [72/639]; ROs, 17.8% [114/639]; MOs, 17.8% [114/639]) associated with 160 unique cancer programs across 44 U.S. states completed the survey
- TSs, ROs, and MOs were largely associated with the Academic Comprehensive Cancer Program, National Cancer Institute-Designated Comprehensive Cancer Center Program (NCIP), and Community Cancer Program (CCP), respectively (**Figure 1**)

Figure 1: Distribution of (A) TSs, (B) ROs, and (C) MOs per cancer programs^a



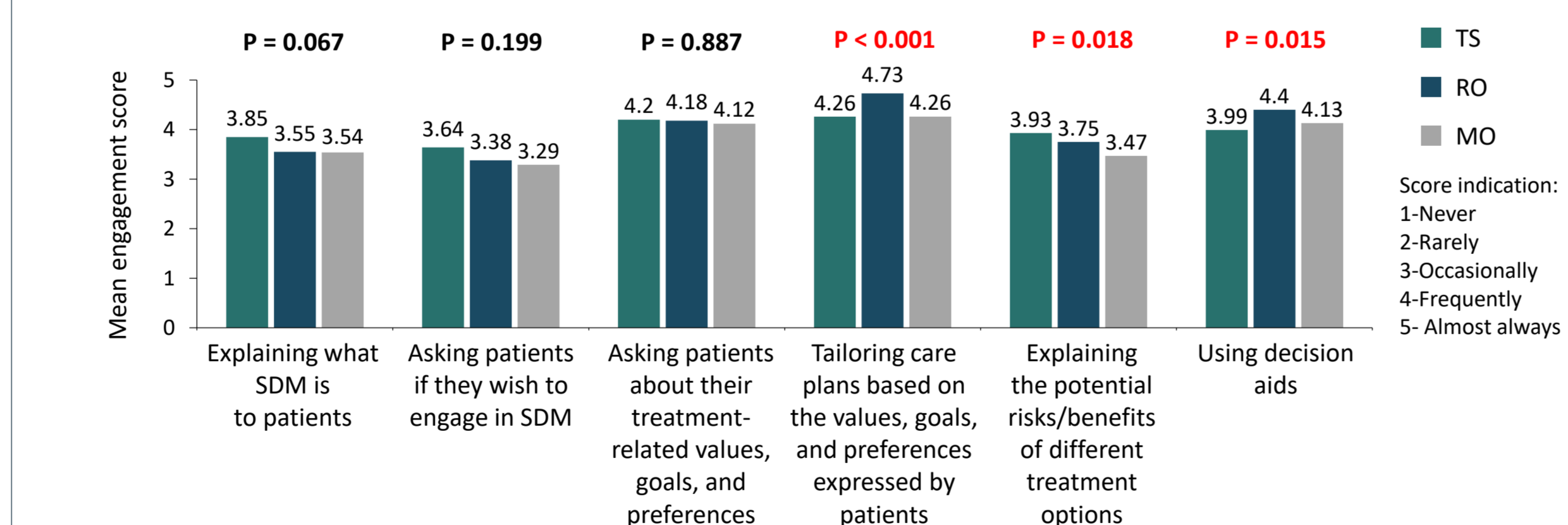
^aAll values denoted are in percentages; ^bNCI-designated includes NCIN and NCIP data; ^cCommunity includes CCP and CCCP data
ACAD, Academic Comprehensive Cancer Program; CCP, Community Cancer Program; CCCP, Comprehensive Community Cancer Program; FCCP, Free Standing Cancer Center Program; HACCP, Hospital Associate Cancer Program; INCP, Integrated Network Cancer Program; MO, medical oncologist; NCI, National Cancer Institute; NCIN, NCI-Designated Network Cancer Program; NCIP, NCI-Designated Comprehensive Cancer Center Program; RO, radiation oncologist; TS, thoracic surgeon; VACP, Veterans Affairs Cancer Program

- TSs, ROs, and MOs largely practiced in urban regions (58%; 174/300), and 70.8%, 43.9%, and 70.2% of TSs, ROs, and MOs, respectively, treated > 50 patients with NSCLC annually

Extent of participation in SDM

- Mean engagement score ranged from 3.29 to 4.73, indicating that these disciplines "occasionally" or "frequently" engaged in SDM (**Figure 2**)

Figure 2: Frequency of SDM engagement



MO, medical oncologist; RO, radiation oncologist; SDM, shared decision-making; TS, thoracic surgeon

Staging and treatment planning

- TSs and MOs from CCP were significantly more likely (75.0% vs 25.0%; P = 0.012), while those from the Integrated Network Cancer Program were less likely (22.2% vs 77.8%; P = 0.012), to define tumors with mediastinal nodal metastases confirmed by biopsy as unresectable vs resectable

- Majority TSs and MOs from NCIP (100% vs 0%; P = 0.036) and the Hospital Associate Cancer Program (72.2% vs 27.8%; P = 0.036) defined tumors with low-volume single nodal station ipsilateral nodal metastases as resectable vs unresectable
- A significantly higher proportion of TSs and MOs from urban regions vs rural/suburban regions defined tumors with suspected mediastinal nodal metastases as unresectable than resectable (76.9% vs 23.1%; P = 0.002)

Video: Primary definition of unresectability across programs



- Programs with multidisciplinary clinics (MDCs) were more likely to use specific protocols to define unresectable tumors compared with programs without MDCs (79.6% vs 20.4%; P = 0.034)
- About 44% of ROs and 42% of MOs indicated that < 10% of patients with unresectable stage III NSCLC who could be given chemoradiotherapy were given radiation alone, whereas about 49% of ROs and 47% of MOs indicated that < 10% of the same population who could be given chemoradiotherapy were given chemotherapy alone
- Additionally, a significantly higher proportion of ROs (73.5%) vs MOs (26.5%; P = 0.039) indicated that < 5% of their patients with stage III NSCLC refused initial treatment; however, no significant association was observed in patients with stage IV NSCLC
- Presence of MDCs improved the use of CPs (P = 0.035)
- MOs were significantly more likely "familiar" or "very familiar" with irAE guidelines compared with ROs (89.7% vs 44.5%; P < 0.001)

Barriers in management of NSCLC

- All the disciplines considered biopsy tissue handling, storage, and transport as a barrier in NSCLC care (**Table 1**)

Table 1: Barriers impacting NSCLC care*

Discipline	Minimal impact	Some impact	Significant impact
Thoracic surgeon		• Patients refusing biopsy or other tests	• Biopsy tissue handling, storage, and transport • Interpretation of biomarker results
Radiation oncologist	• Lack of patient interest in screening • Cost • Biopsy tissue handling, storage, and transport • Improper communication of test results	• Coverage and reimbursement	
Medical oncologist		• Biopsy tissue handling, storage, and transport	

*Barriers were chosen by respondents from a prespecified drop-down menu in the survey

CONCLUSIONS

- The survey provides an overview of the perceptions and differences in management protocols followed by TSs, ROs, and MOs across various U.S. cancer programs
- Engagement of TSs, ROs, and MOs in MDCs and SDM could standardize patient management and enhance quality of care
- The survey highlights multiple opportunities to improve quality of care and management of patients with advanced NSCLC

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CONFLICT OF INTEREST AND DISCLOSURES

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