of palliative care-trained APRNs and clinical pharmacists represents an opportunity.

### Palliative Care Physician Comfort (and Discomfort) with Discussing Prognosis in Hematologic Diseases: Results of a Nationwide Survey (SA528B)

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*Objectives*
- Recognize wide variability in palliative care physicians' comfort in discussing prognosis of patients with hematologic diseases.
- Identify common reasons why palliative care physicians feel comfortable or uncomfortable discussing prognosis in these diseases.
- Discuss opportunities to improve palliative care physicians' comfort in discussing prognosis with hematology patients.

**Original Research Background.** Palliative care specialists provide supportive care for patients with hematologic diseases. Prior investigations have surveyed hematologists to characterize barriers to delivery of palliative care to these patients, but palliative care physicians' perspectives remain unclear.

**Research Objectives.** This research is part of a larger study aimed to examine the beliefs, comfort levels, and attitudes of palliative care physicians toward their interactions with the field of hematology.

**Methods.** A survey was mailed to a random sample of the AAHPM physician contact list in 2017. Results were anonymized. Participants were asked about their comfort in discussing prognosis regarding hematologic malignancies. Written responses were analyzed, themes were identified, and individual topics within responses were coded in a binary fashion (ie, conveying comfort or discomfort).

**Results.** Four-hundred fifty-nine of 1,000 surveys included a written response. Fifty-point-eight percent of respondents were male. Community (34.9%), academic (38.5%), and hospice (26.7%) physicians were represented. In discussing prognosis of hematologic malignancies, 41.1% of responses contained only topics expressing comfort, 40.5% contained only topics expressing discomfort, 16.6% responses were mixed, and 2% were not applicable. Commonly cited explanations for comfort were training and clinical experience (47.9%), strong relationships with hematologists (37%), and clear trajectory given likely imminent death (12.8%). Nine-point-eight percent reported fellowship training in or practicing hematology as a reason for comfort. Commonly cited reasons for discomfort were lack of clinical exposure (51.9%), uncertainty of disease trajectories (22.9%), poor relationships with hematologists (17.2%), limited knowledge of hematologic diseases (13.7%), and rapidly-changing treatments (9.2%).

**Conclusion.** Palliative care physicians report varying comfort in discussing prognosis in hematologic diseases. This may be a function of clinical exposure to these diseases in practice and training, as well as strong relationships with hematologists.

**Implications for Research, Policy, or Practice.** These findings will help identify opportunities to improve palliative care physicians' comfort in discussing prognosis with hematology patients, leading to better provision of supportive care.

### Natural Language Processing to Assess End-of-Life Quality Indicators in Breast Cancer Patients with Leptomeningeal Disease (SA528C)

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*Objectives*
- Describe that leptomeningeal carcinomatosis is a marker of serious illness in patients with breast cancer.
- Recognize the relationship between palliative care involvement and serious illness conversations in patients with leptomeningeal disease.

**Background.** Leptomeningeal carcinomatosis is a sign of poor prognosis in patients with metastatic breast cancer, and serious illness conversations have been recommended for patients with this diagnosis.

**Objectives.** Natural language processing (NLP) was used to (1) identify a population of breast cancer patients with leptomeningeal disease and (2) assess documentation of end-of-life process measures in the electronic health record.

**Methods.** Retrospective cohort analysis of patients with breast cancer and leptomeningeal disease based on administrative billing coding followed at 2 tertiary hospitals in Boston between 2010 and 2016. NLP was used to confirm leptomeningeal disease in magnetic resonance imaging reports. Subsequently, NLP was used to assess specialist palliative care involvement and three serious illness process measures: goals of care discussions, code status limitations, and hospice assessment. Regression analysis was performed to assess the impact of palliative care involvement on subsequent documentation of each process measure.

**Results.** NLP-assisted MRI review yielded 183 patients with leptomeningeal disease. The mean age was

56 years. In the 6 months after diagnosis with leptomeningeal disease, 63% had goals of care discussions documented, 72% had hospice assessment, and 89% had documentation of at least 1 of the 4 process measure. Logistic regression showed that early palliative care involvement was a significant predictor of documentation of goals of care (OR 2.43, 1.17-5.03) and hospice discussions (OR 3.44, 1.51-7.83). Median survival for 167 patients with known dates of death was 148 days.

**Conclusion.** Leptomeningeal disease is a marker of serious illness and should be considered a trigger for conversations about patients' goals. Palliative care involvement may promote conversation and documentation of patients' wishes.

**Implications for Research, Policy, or Practice.** Earlier involvement of palliative care in this patient population may help facilitate conversations about goals of care and serious illness.

### Patterns of Whole Brain Radiation Therapy for Nonsmall Cell Lung Cancer Patients with Brain Metastases (SA528D)

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*Objectives*
- Examine the type of dose-fractionation scheme used to provide whole brain radiation therapy (WBRT) to patients with non-small cell lung cancer (NSCLC) and brain metastases.
- Describe how patient's clinical and nonclinical factors are related to the choice of dose-fractionation scheme for WBRT to NSCLC patients with brain metastases.

**Original Research Background.** Patients with non-small cell lung cancer (NSCLC) and brain metastases may benefit from whole brain radiation therapy (WBRT) to prevent or palliate neurological symptoms, but WBRT may not always provide meaningful benefit given acute toxicities and the short median survival of these patients.

**Research Objectives.** We examined the pattern of dose-fractionation schemes for WBRT among patients with NSCLC and brain metastases.

**Methods.** We included 42,327 NSCLC patients with brain metastases at initial diagnosis in the National Cancer Database from 2010-2013. We excluded patients who had missing radiation data, received stereotactic radiosurgery, received nonstandard WBRT dose-fractionation schemes, or lacked follow-up. We examined the distribution of dose/fractionation schemes for WBRT across patient and facility factors.

**Results.** Among NSCLC patients with brain metastases, 35.0% received WBRT (n=14,810). Patients with only brain metastases were not significantly more likely to receive WBRT than those with multiple metastatic sites (p=0.11).The most common schemes were 3 Gray/fraction for 10 fractions (60.6%) or 2.5 Gray/fraction for 14/15 fractions (38.11%), rather than 2 Gray/fraction for 20 fractions (3.17%) or 4 Gray/fraction for 5 fractions (1.47%). Patients prescribed longer courses were more likely to have Medicare or private insurance, rather than Medicaid or no insurance (p<0.001). Patients prescribed short-course WBRT lived farther from the medical center than those prescribed longer courses (median distance 26.13 miles for 3 Gray/fraction vs 18.98 miles for 2 Gray/fraction; p<0.001). Patients with no important comorbidities were not significantly more likely to receive long-course WBRT than those with multiple comorbidities (p=0.45).

**Conclusion.** The dose-fractionation scheme of WBRT for patients with NSCLC and brain metastases is associated with several nonclinical characteristics, including their distance to the cancer center, rather than multiple metastatic sites or comorbidities.

**Implications for Research, Policy, or Practice.** Policy changes should be considered to ensure that patients with NSCLC and brain metastases are selected carefully for long dose fractionations of WBRT, based primarily on clinical characteristics.