American Association of Neuropathologists

AOE Analysis of AANP's Fall 2025 Membership Survey

A survey was sent to the membership base of the American Association of Neuropathologists (AANP) in the fall of 2025. This survey is used for planning future annual meeting topics by providing a better understanding of current neuropathology practice characteristics. A total of 116 members responded to the 28 clinical assertion statement questions within the survey, and the summary of these results is described below.

The survey asked individuals to respond to demographic questions, shown in figures 1-3, to help further contextualize the results.

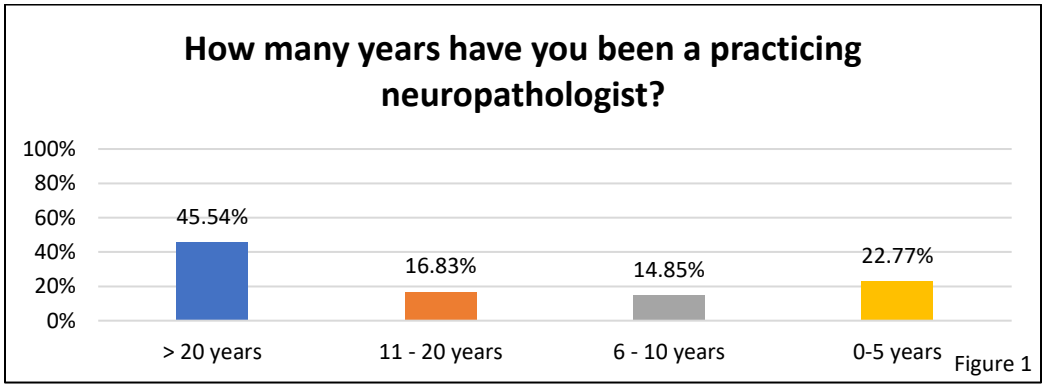


Figure 1

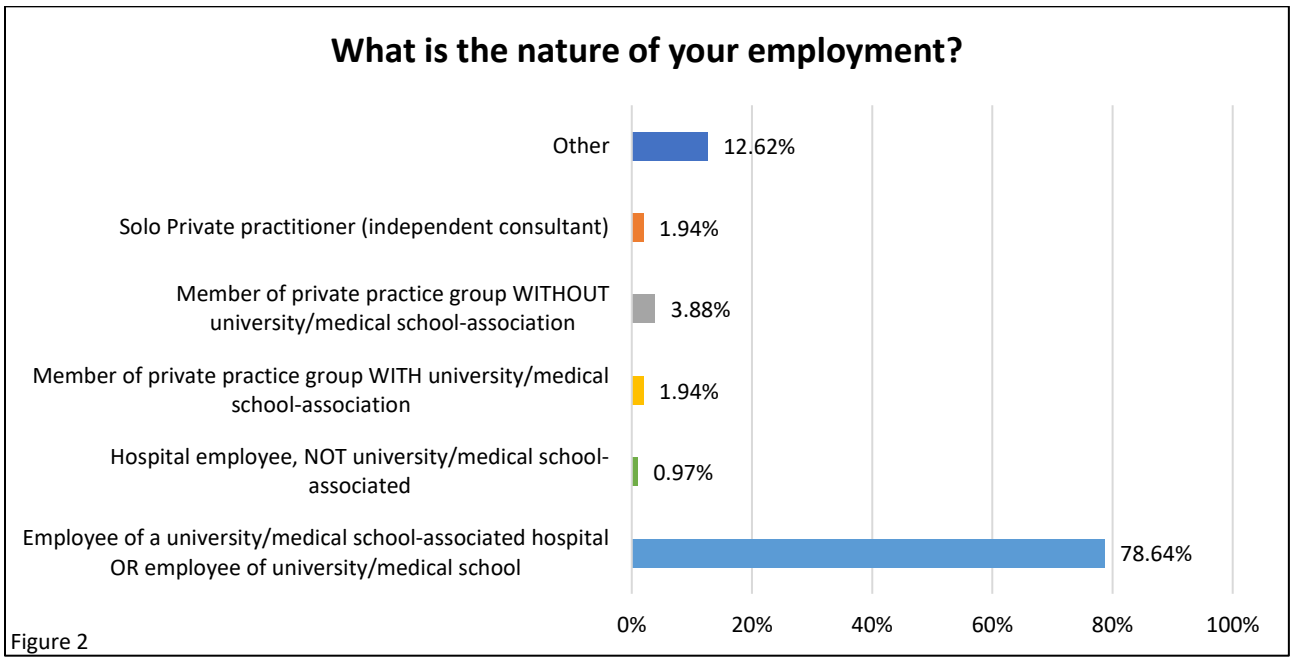


Figure 2

Other includes: Retired/Semi-Retired (7), Trainee/Fellow (2), Government (2); Private Non-Profit Research Institute (1); Non-Medical School Associated Academic Practice (1)

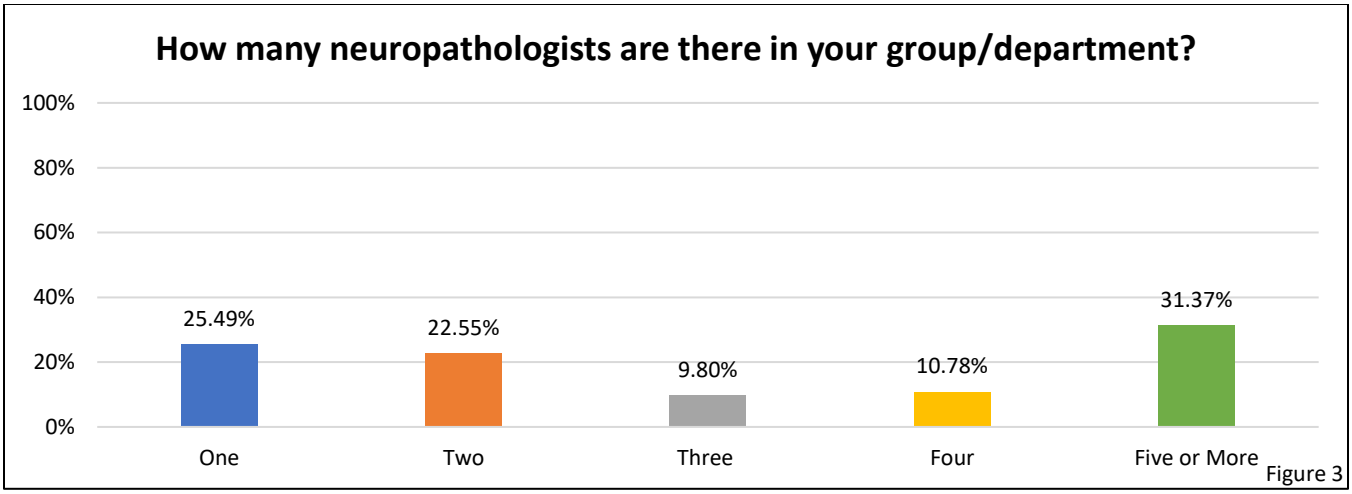


Figure 3

Clinical Assertion Statements

The survey asked members to rate 28 different clinical assertion statements using a 5-point Likert-type scale from 1=Disagree Completely to 5=Agree Completely, with a neutral option of 3=Neither Disagree nor Agree. These questions were developed to determine a member's level of knowledge regarding 7 separate topics in neuropathology. Data is presented as mean +/- percent unknown. Percent unknown indicates the number of responses in the incorrect/neutral position of total responses. For consistency, throughout this summary, a mean was considered close to the neutral position if it fell between 2.75 to 3.25. Further, if more than 50 percent of respondents answered at the neutral/incorrect position, narrative indicates that additional education may be appropriate.

Epilepsy

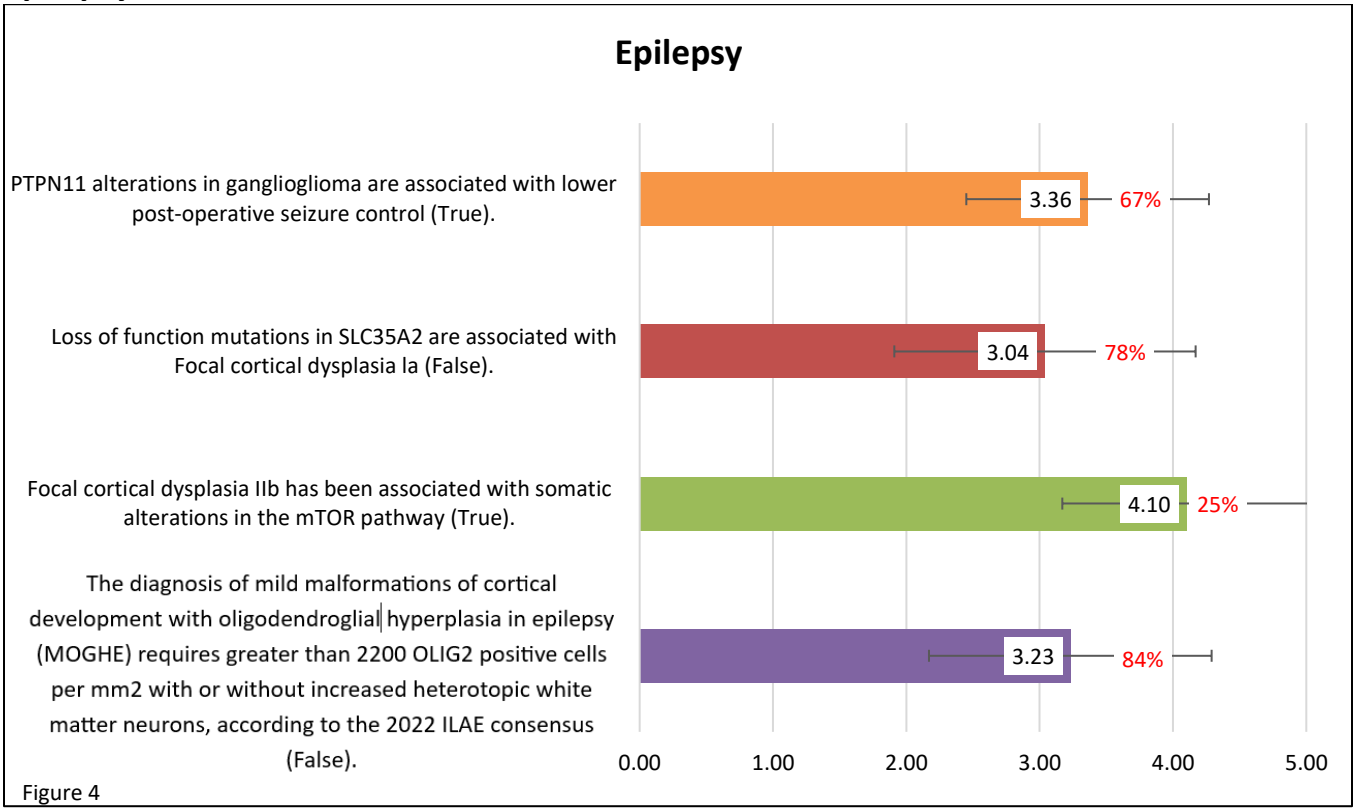


Figure 4

Figure 4 provides the results for the four questions evaluating knowledge in the area of **epilepsy**. Statements one and three are true, while statements two and four are false. Statements one and three had mean scores in the desired direction. Statements two and four had a mean close to the neutral position, with 78% and 84% of responses, respectively, in the incorrect or neutral position, indicating education is likely appropriate related to these statements:

- Loss of function mutations in *SLC35A2* are associated with Focal cortical dysplasia Ia.
- The diagnosis of mild malformations of cortical development with oligodendroglial hyperplasia in epilepsy (MOGHE) requires greater than 2200 OLIG2 positive cells per mm2 with or without increased heterotopic white matter neurons, according to the 2022 ILAE consensus.

Treatment and Biomarkers in Neurodegenerative Diseases

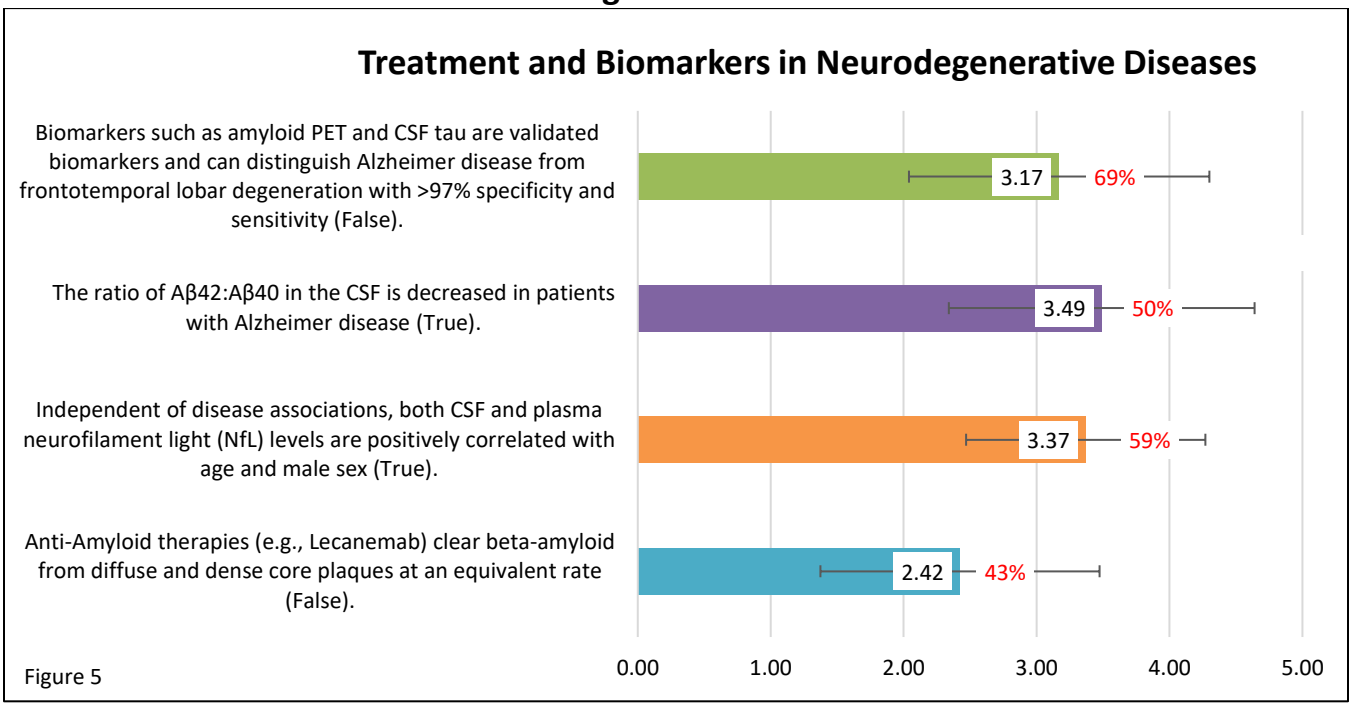


Figure 5

Figure 5 provides the results for the four questions evaluating knowledge in the area of **treatment and biomarkers in neurodegenerative diseases.** Statements one and four are false while statements two and three are true. Statements two, three, and four had a mean in the desired direction. Statement one had a mean close to the neutral position, with 69% of responses in the incorrect or neutral position, indicating education is likely appropriate related to this statement. In sum, areas of appropriate additional education include:

- Anti-Amyloid therapies (e.g., Lecanemab) clear beta-amyloid from diffuse and dense core plaques at an equivalent rate.

Updates in Neuromuscular Disease Diagnosis

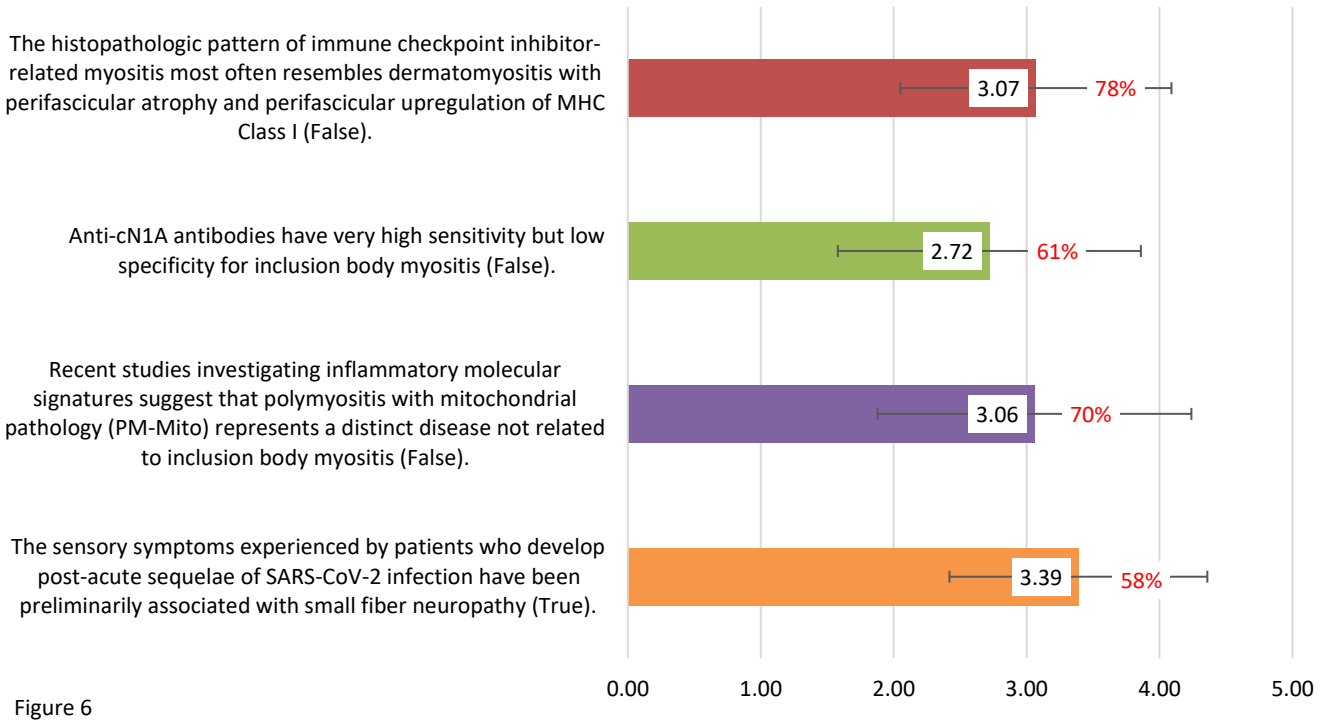


Figure 6

Figure 6 provides the results for the four questions evaluating knowledge regarding **updates in neuromuscular disease diagnosis.** Statements one, two, and three are false while statement four is true. Statement two had a mean in the desired direction. Statements one, three and four either had a mean in the neutral position and/or over 50% of responses that were incorrect or at the neutral position, at 78%, 70%, and 58%, respectively, indicating that these are areas of potential educational need. In sum, areas of appropriate additional education include:

- The histopathologic pattern of immune checkpoint inhibitor-related myositis most often resembles dermatomyositis with perifascicular atrophy and perifascicular upregulation of MHC Class I.
- Recent studies investigating inflammatory molecular signatures suggest that polymyositis with mitochondrial pathology (PM-Mito) represents a distinct disease not related to inclusion body myositis.
- The sensory symptoms experienced by patients who develop post-acute sequelae of SARS-CoV-2 infection have been preliminarily associated with small fiber neuropathy.

Liquid Biopsies and Brain Tumors

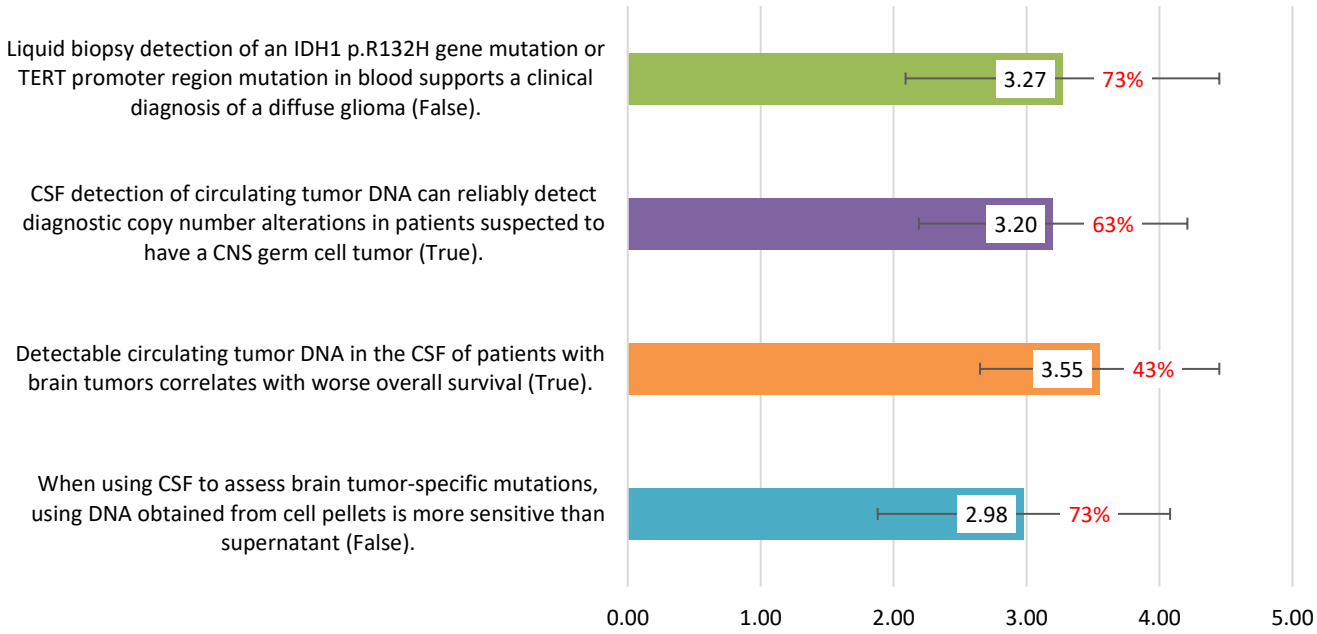


Figure 7

Figure 7 provides the results for the four questions evaluating knowledge in the area of **liquid biopsies and brain tumors**. Statements one and four are false while statements two and three are true. Statement three had a mean in the desired direction. Statements two and four had a mean score close to the neutral position with 63% and 73% of responses, respectively, in the incorrect or neutral position. This indicates that education is appropriate related to these statements. Additionally, statement one had 73% of responses in the incorrect or neutral position, indicating this is also a potential area of educational need. In sum, areas of appropriate additional education include:

- Liquid biopsy detection of an IDH1 p.R132H gene mutation or TERT promoter region mutation in blood supports a clinical diagnosis of a diffuse glioma.
- CSF detection of circulating tumor DNA can reliably detect diagnostic copy number alterations in patients suspected to have a CNS germ cell tumor.
- When using CSF to assess brain tumor-specific mutations, using DNA obtained from cell pellets is more sensitive than supernatant.

Inflammatory and Autoimmune Diseases in Neuropathology

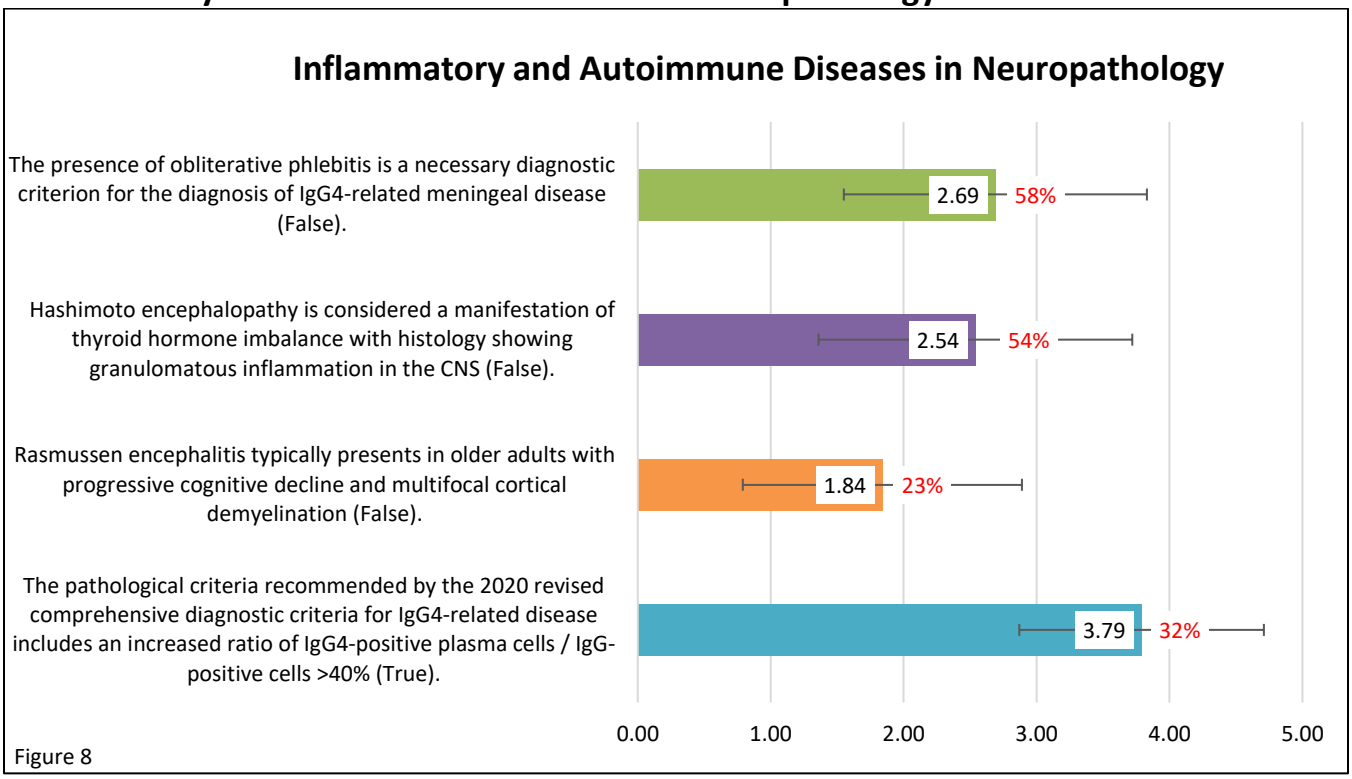


Figure 8

Figure 8 provides the results for the four questions evaluating knowledge in the area of **inflammatory and autoimmune diseases in neuropathology**. Statements one, two, and three are false while statement four is true. Members selected responses in the desired direction for statements three and four. Statements one and two had 58% and 54% of responses, respectively, in the incorrect or neutral position, indicating these are potential areas of educational need. In sum, areas of appropriate additional education include:

- The presence of obliterative phlebitis is a necessary diagnostic criterion for the diagnosis of IgG4-related meningeal disease.
- Hashimoto encephalopathy is considered a manifestation of thyroid hormone imbalance with histology showing granulomatous inflammation in the CNS.

Metabolomics

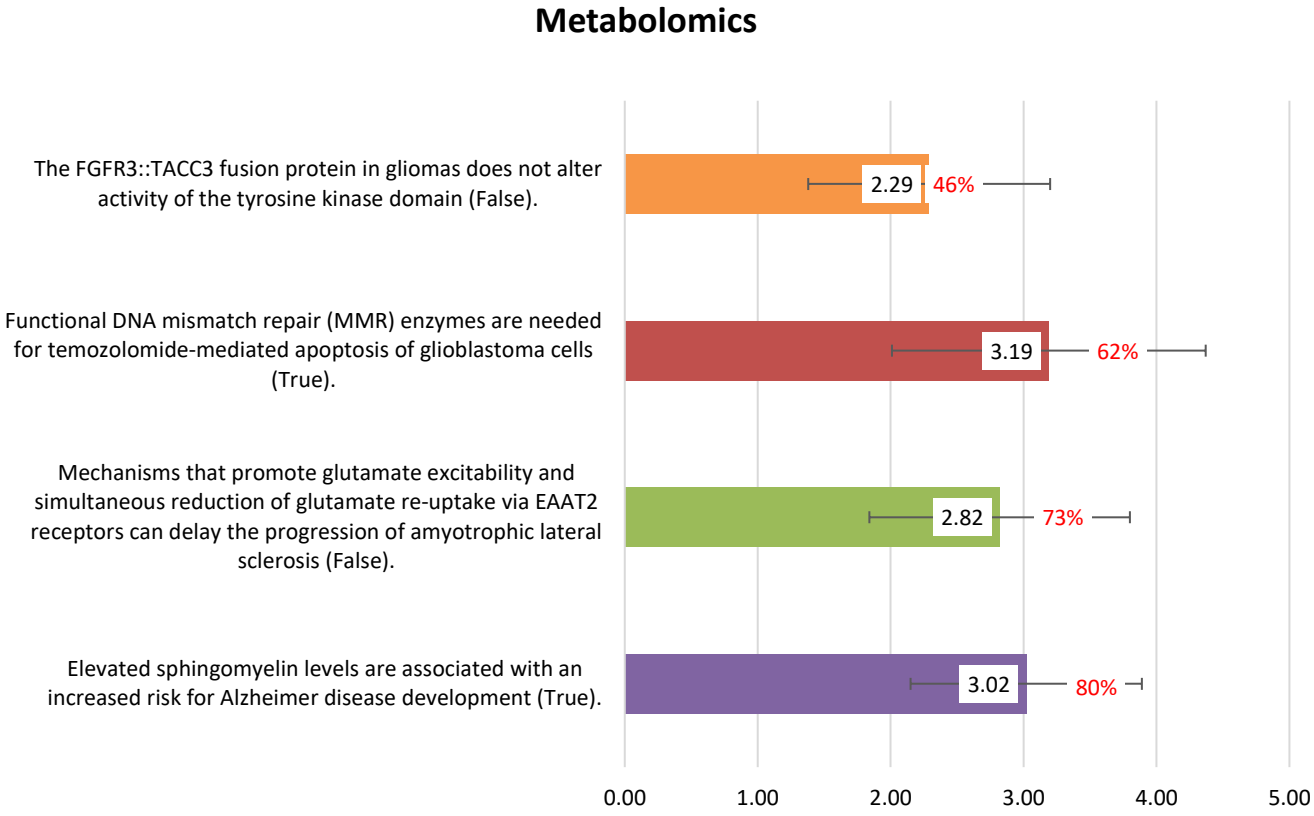


Figure 9

Figure 9 provides the results for the four questions evaluating knowledge in the area of **metabolomics**. Statements one and three are false, and statements two and four are true. Statement one had a mean in the desired direction. Statements two, three, and four had a mean score close to the neutral position with 62%, 73%, and 80% of responses, respectively, in the incorrect or neutral position. This indicates that education may be appropriate related to these statements. In sum, an area of appropriate additional education include:

- Functional DNA mismatch repair (MMR) enzymes are needed for temozolomide-mediated apoptosis of glioblastoma cells.
- Mechanisms that promote glutamate excitability and simultaneous reduction of glutamate re-uptake via EAAT2 receptors can delay the progression of amyotrophic lateral sclerosis.
- Elevated sphingomyelin levels are associated with an increased risk for Alzheimer disease development.

Brain Tumor Diagnosis in Under-resourced/Limited Settings

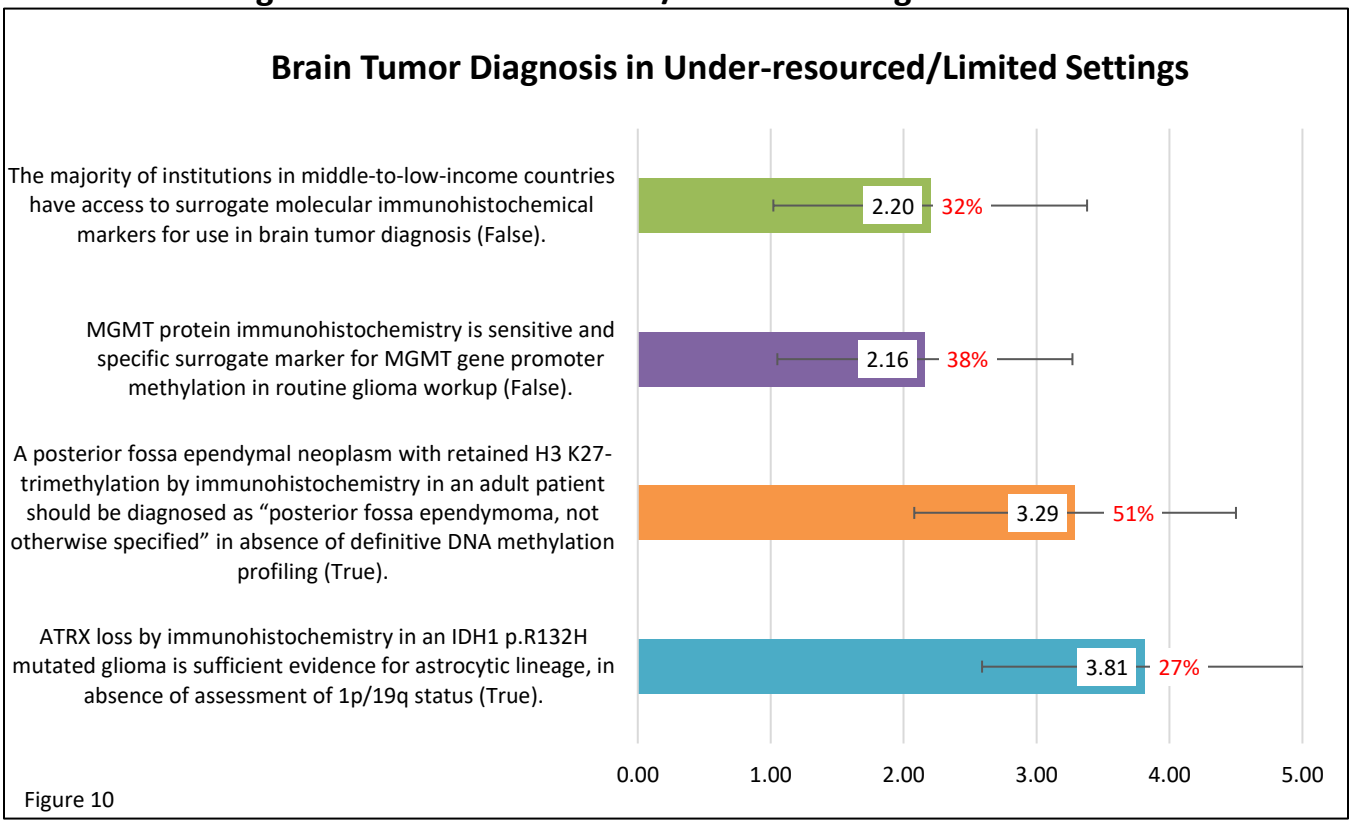


Figure 10

Figure 10 provides the results for the four questions evaluating knowledge in the areas of **brain tumor diagnosis in under-resourced/limited settings**. Statements one and two are false while statements three and four are true. Statements one, two, and four had a mean score in the desired direction. However, for statement three, 51% of respondents answered in the incorrect or neutral position, indicating that additional education may be appropriate. In sum, areas of appropriate additional education include:

- A posterior fossa ependymal neoplasm with retained H3 K27-trimethylation by immunohistochemistry in an adult patient should be diagnosed as “posterior fossa ependymoma, not otherwise specified” in absence of definitive DNA methylation profiling.

Conclusion:
Based on the analysis of the 2025 Annual Membership Survey, there were some statements where responses were close to neutral, and many respondents answered in the neutral position which indicates areas where there may be need for additional education. Further, several scores were on the opposite/wrong side of the scale. Both situations indicate that the following are areas of need for additional education:

- **Epilepsy**
  - Loss of function mutations in *SLC35A2* are associated with Focal cortical dysplasia Ia (False).
  - The diagnosis of mild malformations of cortical development with oligodendroglial hyperplasia in epilepsy (MOGHE) requires greater than 2200 OLIG2 positive cells per mm2 with or without increased heterotopic white matter neurons, according to the 2022 ILAE consensus (False).
- **Treatment and Biomarkers in Neurodegenerative Diseases**
  - Anti-Amyloid therapies (e.g., Lecanemab) clear beta-amyloid from diffuse and dense core plaques at an equivalent rate (False).
- **Updates in Neuromuscular Disease Diagnosis**
  - The histopathologic pattern of immune checkpoint inhibitor-related myositis most often resembles dermatomyositis with perifascicular atrophy and perifascicular upregulation of MHC Class I (False).
  - Recent studies investigating inflammatory molecular signatures suggest that polymyositis with mitochondrial pathology (PM-Mito) represents a distinct disease not related to inclusion body myositis (False).
  - The sensory symptoms experienced by patients who develop post-acute sequelae of SARS-CoV-2 infection have been preliminarily associated with small fiber neuropathy (True).
- **Liquid Biopsies and Brain Tumors**
  - Liquid biopsy detection of an IDH1 p.R132H gene mutation or TERT promoter region mutation in blood supports a clinical diagnosis of a diffuse glioma (False).
  - CSF detection of circulating tumor DNA can reliably detect diagnostic copy number alterations in patients suspected to have a CNS germ cell tumor (True).
  - When using CSF to assess brain tumor-specific mutations, using DNA obtained from cell pellets is more sensitive than supernatant (False).
- **Inflammatory and Autoimmune Diseases in Neuropathology**
  - The presence of obliterative phlebitis is a necessary diagnostic criterion for the diagnosis of IgG4-related meningeal disease (False).
  - Hashimoto encephalopathy is considered a manifestation of thyroid hormone imbalance with histology showing granulomatous inflammation in the CNS (False).
- **Metabolomics**
  - Functional DNA mismatch repair (MMR) enzymes are needed for temozolomide-mediated apoptosis of glioblastoma cells (True).
  - Mechanisms that promote glutamate excitability and simultaneous reduction of glutamate re-uptake via EAAT2 receptors can delay the progression of amyotrophic lateral sclerosis (False).
  - Elevated sphingomyelin levels are associated with an increased risk for Alzheimer disease development (True).
- **Brain Tumor Diagnosis in Under-resourced/Limited Settings**
  - A posterior fossa ependymal neoplasm with retained H3 K27-trimethylation by immunohistochemistry in an adult patient should be diagnosed as “posterior fossa ependymoma, not otherwise specified” in absence of definitive DNA methylation profiling (True).

Additional Survey Questions

The following questions regarding compensation data were included by the AANP Professional Affairs Committee to garner information and data on this topic.

Demographics and Practice Setting

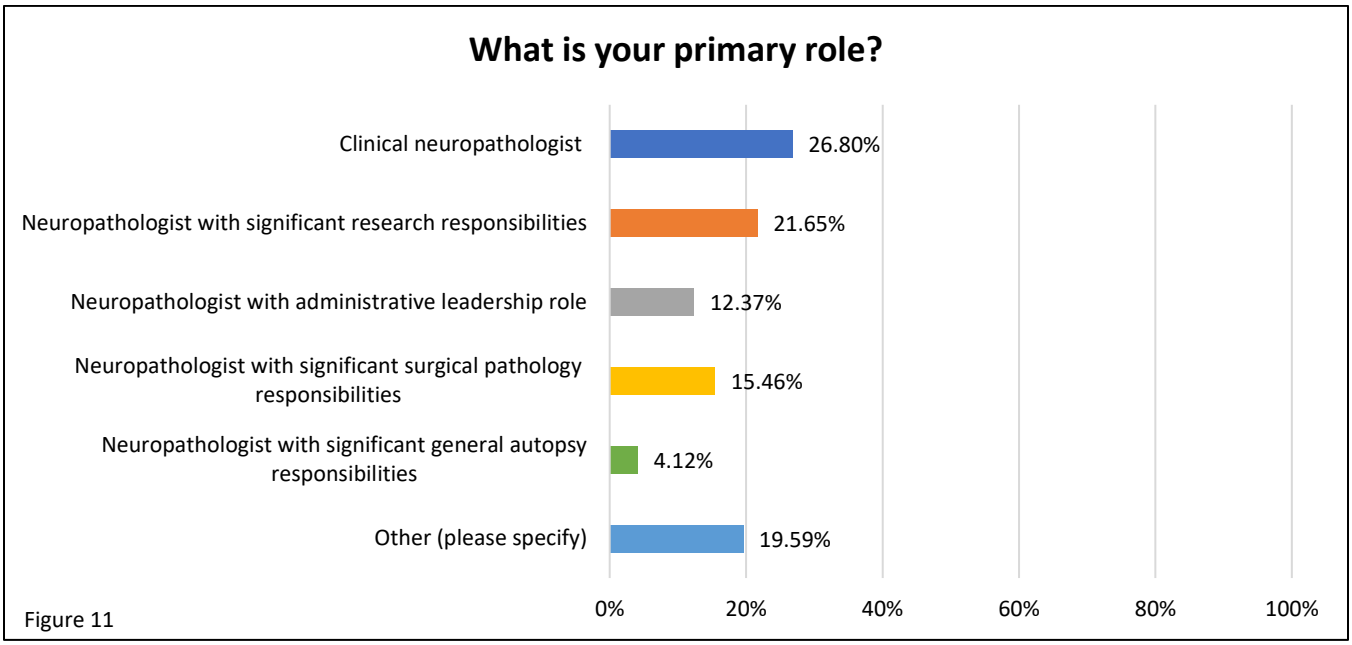


Figure 11

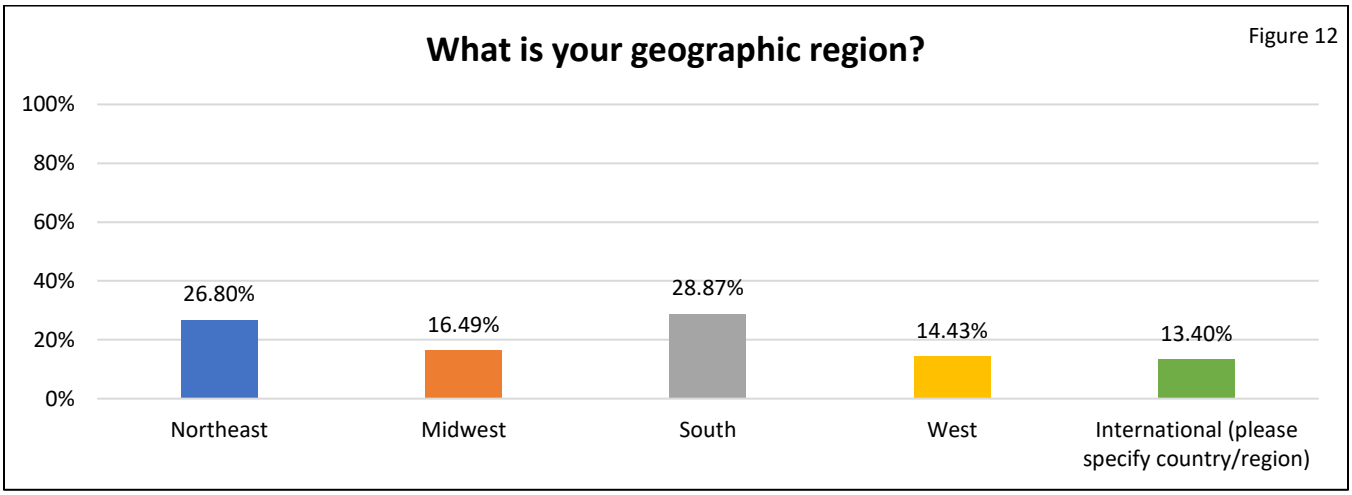


Figure 12

International: Australia (2); Brazil (1); Canada (5); Europe (1); Middle East (1)**;** Norway (1); Taiwan (1); Turkey (1)

Figure 13

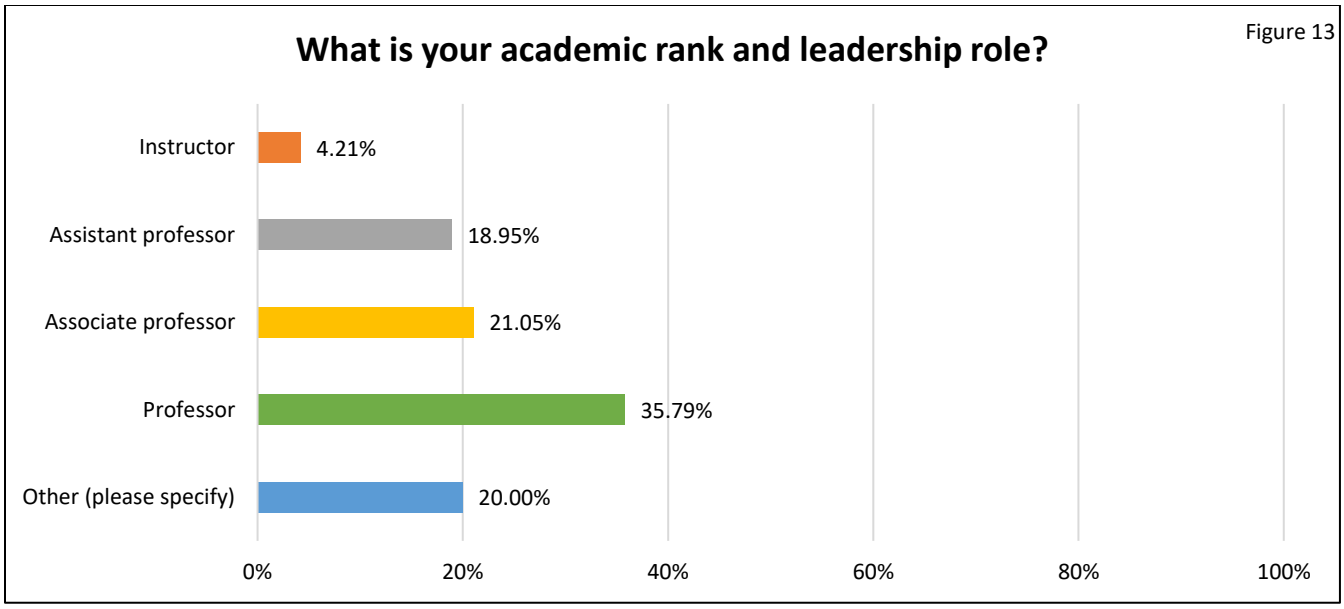
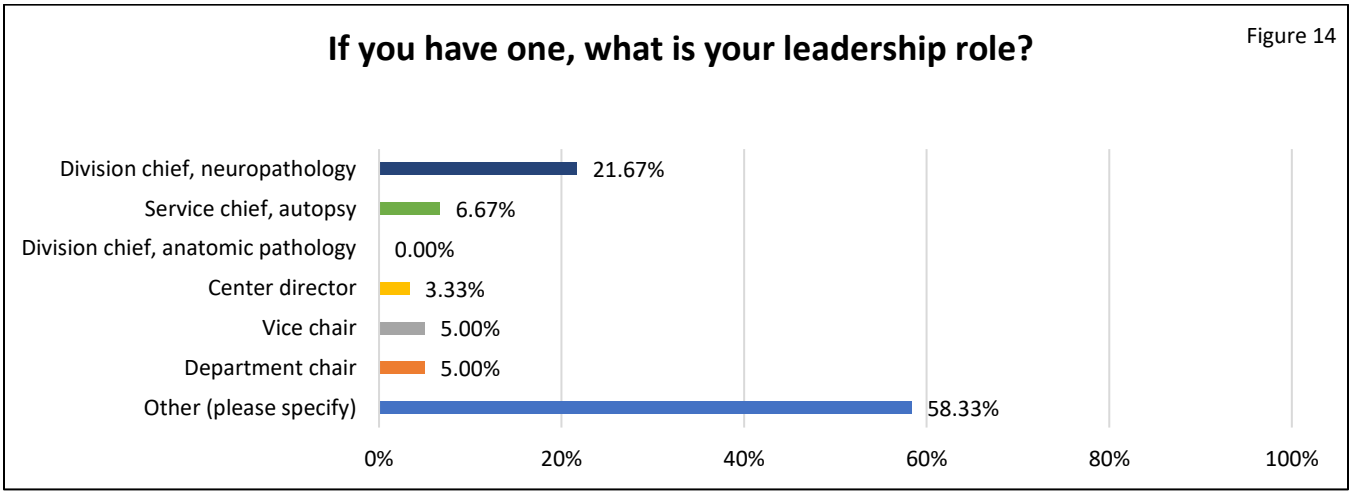


Figure 14



Clinical Workload & Time Allocation

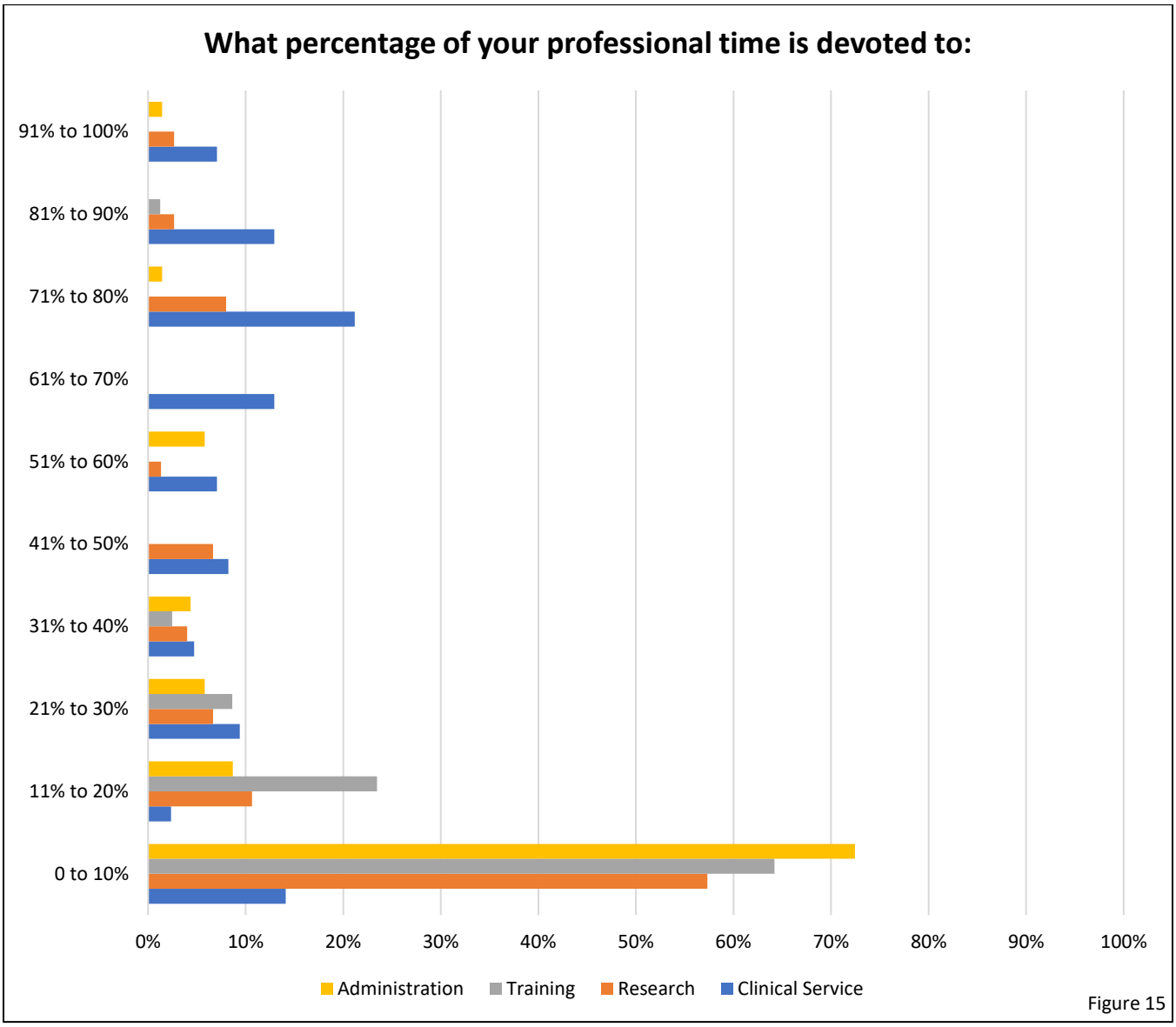


Figure 15

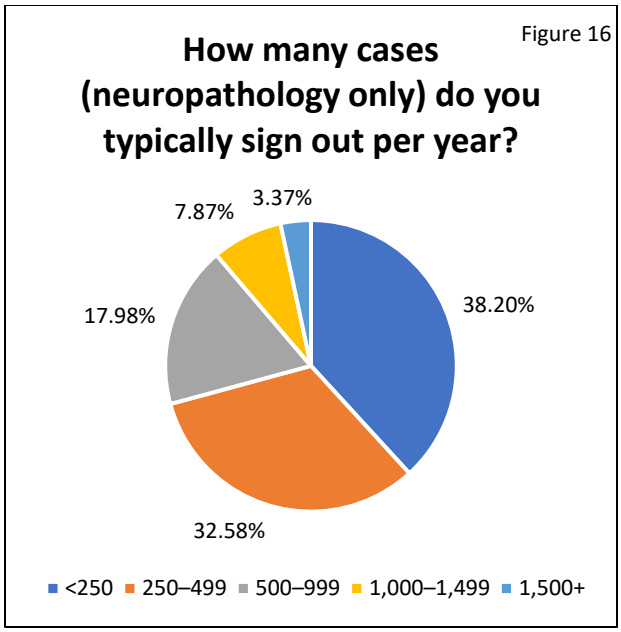


Figure 16

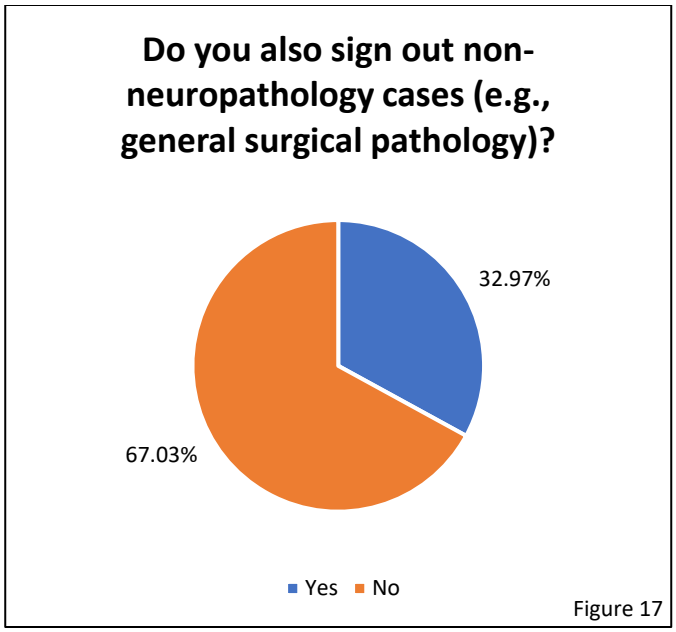


Figure 17

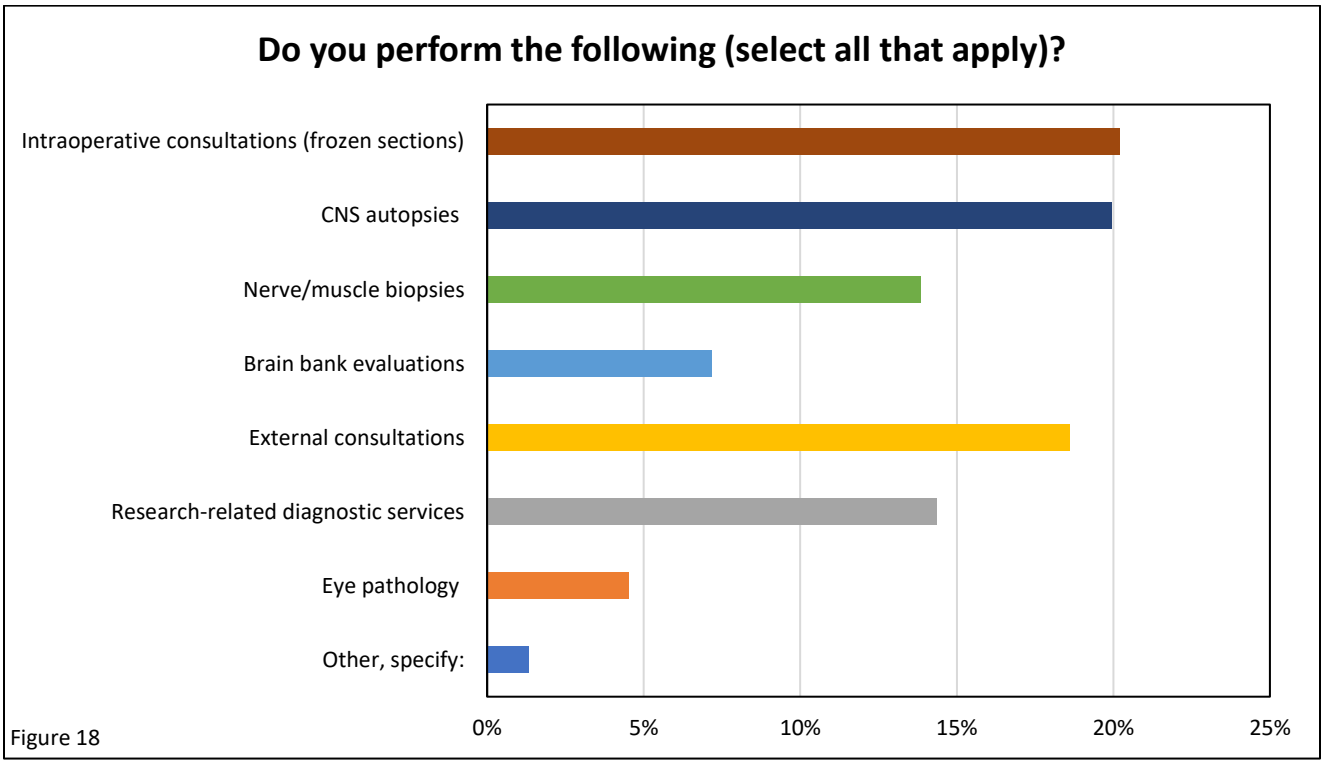


Figure 18

Compensation

Thinking about what you received in calendar 2024 (or annualized if you have not been in your post for 12 continuous months), what is your current total annual compensation (base salary + bonuses/incentives)?

2026 Neuropathologist Total Compensation Salary Survey

Total	Assistant Professor	Associate Professor	Professor	Chief*	Other**
Count	11	12	13	12	9
10th Percentile	$242,000	$264,900	$262,000	$291,000	$340,000
25th Percentile	$251,500	$281,250	$290,000	$300,000	$357,500
Median	$265,000	$305,000	$322,000	$331,000	$392,000
75th Percentile	$300,000	$323,750	$410,000	$363,750	$420,000
90th Percentile	$310,000	$339,500	$423,493	$413,219	$501,000
Mean	$273,626	$308,417	$341,465	$340,789	$398,444

Includes Division and Center Directors but not Department Chairs

***Neuropathologists with >50% non-neuropathology (surgical pathology) signout responsibilities*

Figure 19

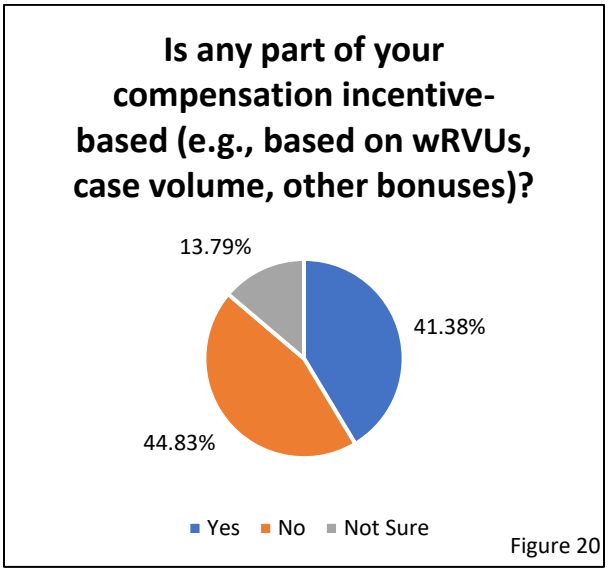


Figure 20

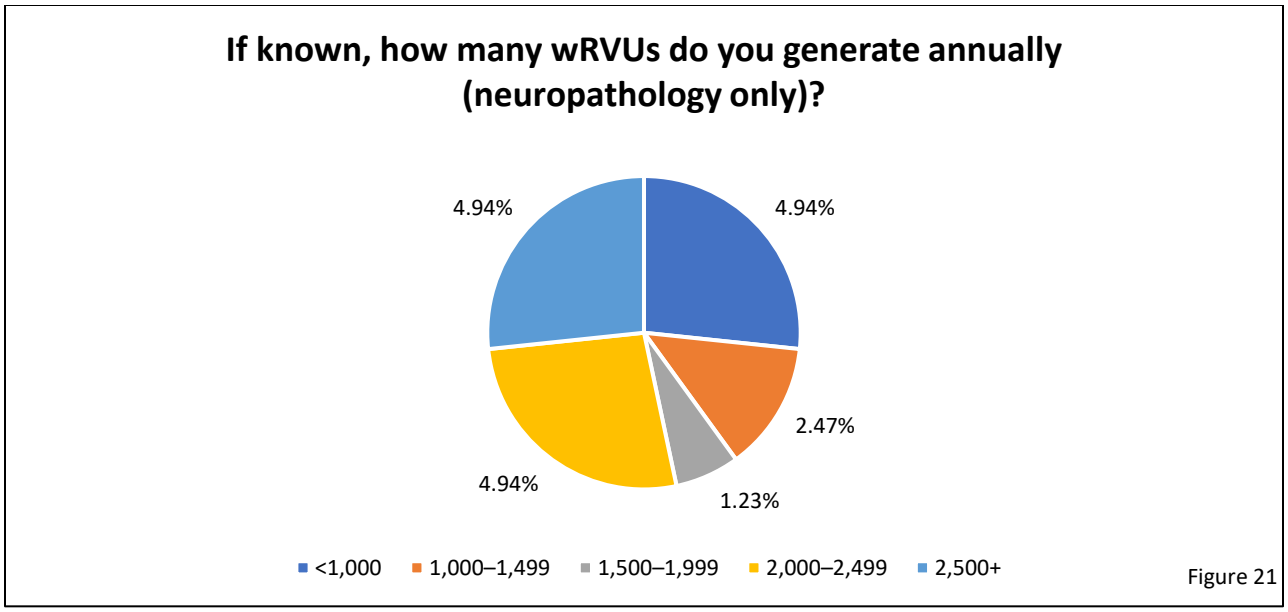


Figure 21

Note: 81.48% (66) of respondents indicated "not tracked/not applicable.

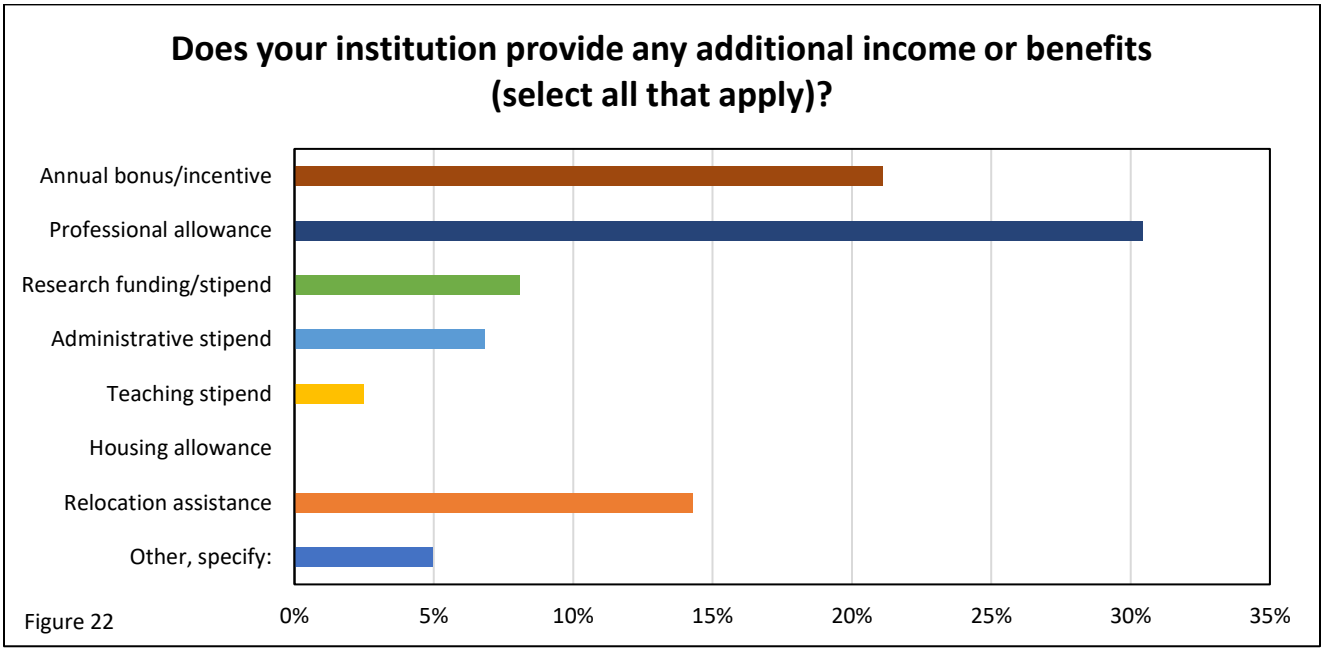


Figure 22

Job Satisfaction and Retention

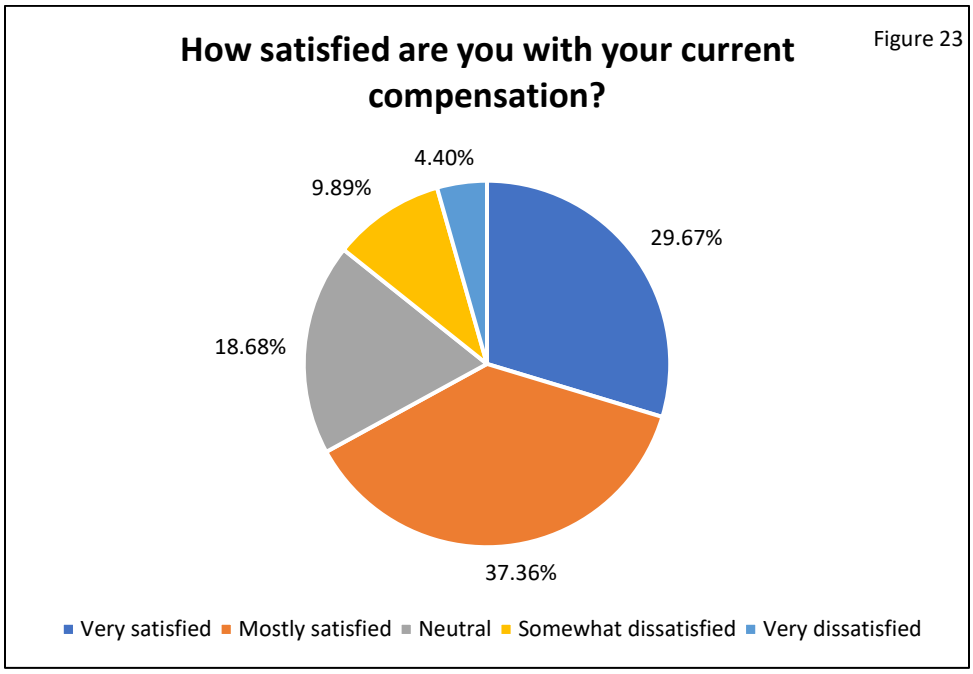


Figure 23

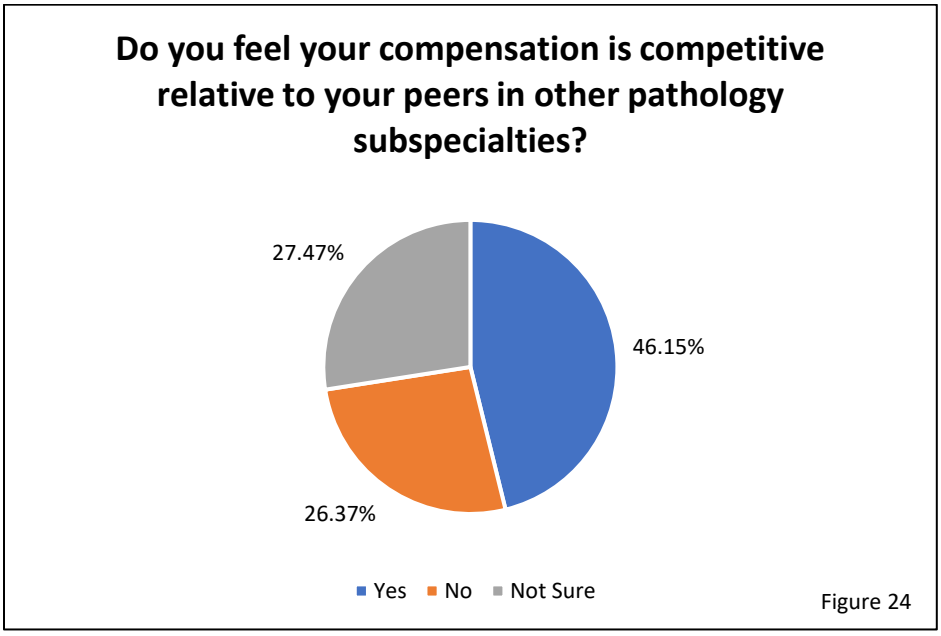


Figure 24

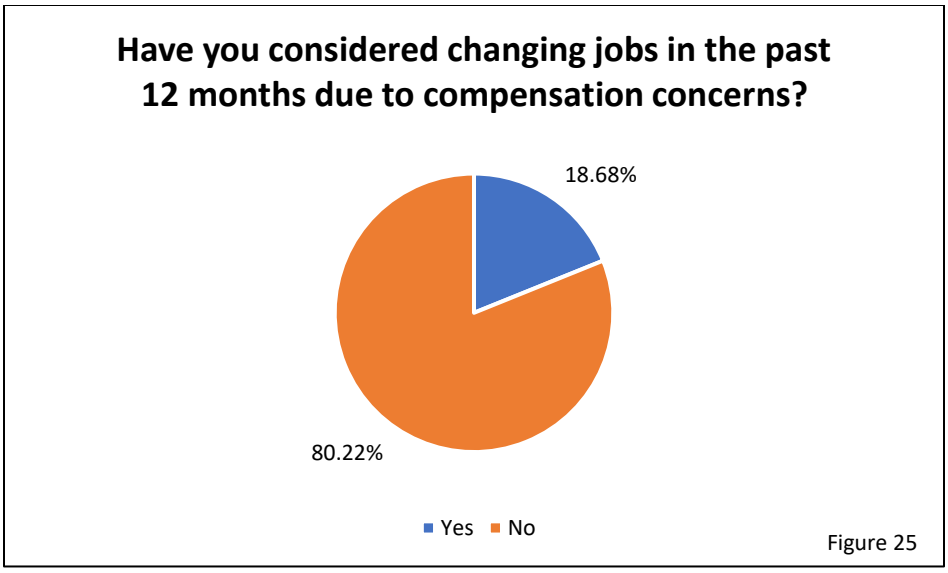

Have you considered changing jobs in the past 12 months due to compensation concerns?
18.68%
80.22%
Yes
No

Figure 25