



# Quality Improvement in Pediatric Neurosurgery

Annie I. Drapeau MD MSc FRCSC<sup>1</sup>, Carolina Sandoval Garcia MD<sup>2</sup>

<sup>1</sup>Division of Pediatric Neurosurgery, Nationwide Children's Hospital and The Ohio State University College of Medicine, Columbus OH

<sup>2</sup>Department of Neurosurgery, University of Minnesota, Minneapolis MN



## Background

Quality Improvement (QI) is regarded as a framework or methodology used to implement sustainable meaningful change and improve patient outcomes. QI is becoming an integral part of contemporary healthcare. It is also a requirement in Neurosurgery Residency training by the Accreditation Council for Graduate Medical Education (ACGME). Best outcomes and safe equitable care for children is every pediatric neurosurgeon's mission and as a result, pediatric neurosurgery as a field is showing interest in making QI a priority.

*This study sought to define the current QI landscape in pediatric neurosurgery.*

## Methods

A Redcap survey was sent to pediatric neurosurgeons through the AANS/CNS Section on Pediatric Neurosurgery email distribution list. Responses remained anonymous. Questions addressed the following topics:

- 1) Training and participation in QI,
- 2) QI infrastructure,
- 3) QI program incentives,
- 4) General opinions on NSQIP database, various QI topics, and QI productivity.

## Results

Responses were received from 129 individuals (20.0 % return rate).

The majority practiced in an academic setting (59.8%) at a free-standing pediatric hospital (65.4%) (Figure 1). Participation in QI projects was high (81.7%), but only 23.8% had formal QI training.

Only 36.5% had institutional requirements for QI work; the majority of those were only required to participate as a project team member (80.0%) (Figure 2). Nearly half of all respondents did not receive incentives or institutional support for QI (Figure 3 and Figure 4).

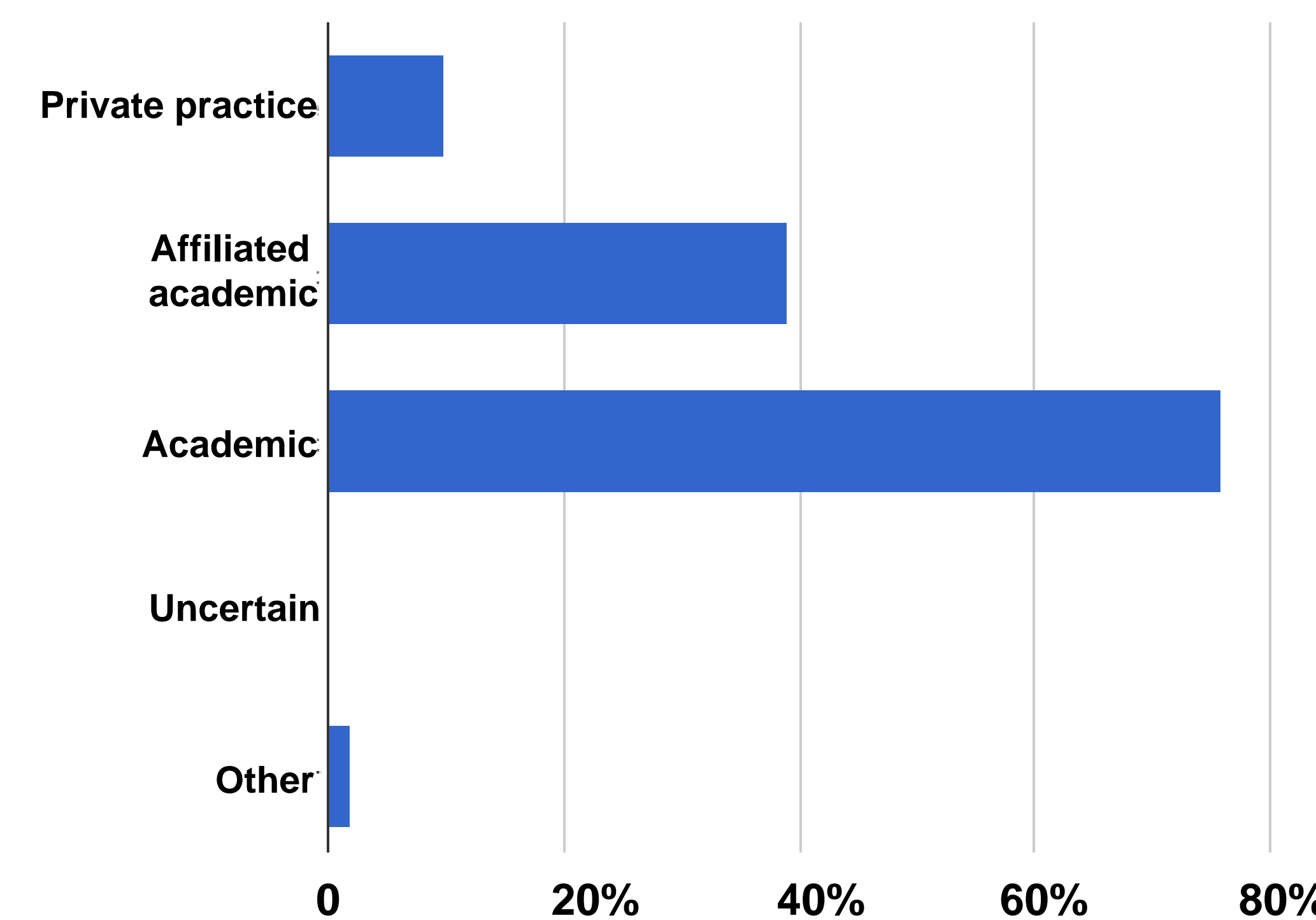
The majority agreed ("strongly" and "somewhat agree") with the following:

- a QI course would be beneficial (75.5%);
- there is interest for QI projects presentations at the annual Pediatric Section meeting (88.2%);
- QI projects should be considered for publication in neurosurgery journals (88.1%); and
- there is a need for national quality metrics (81.4%).

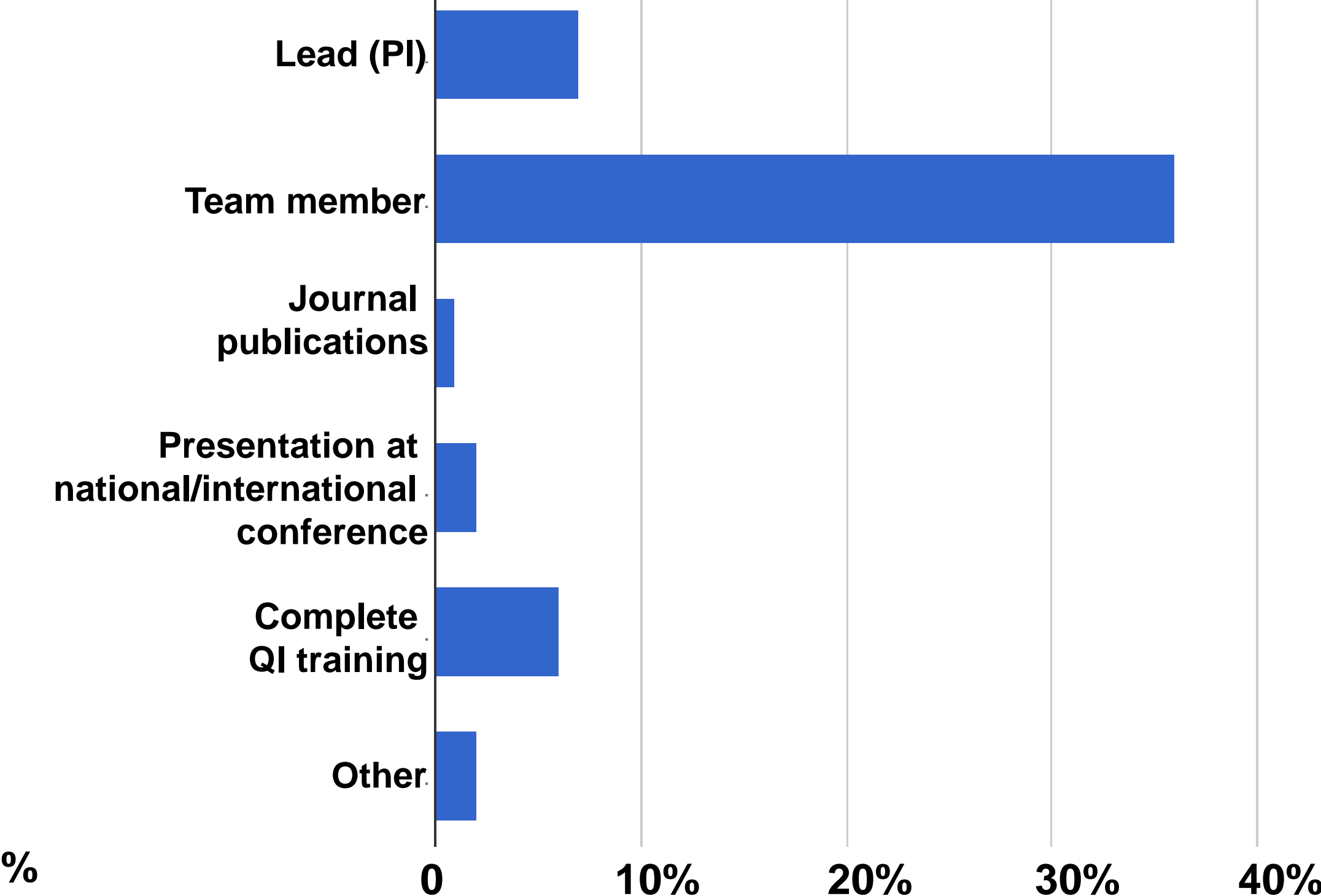
Only 26.4% felt that NSQIP was a useful QI guide ("strongly" and "somewhat agree").

Close to 225 suggestions of critical pediatric neurosurgery topics that should be addressed in future Patient Quality & Safety initiatives were provided (Table 1)

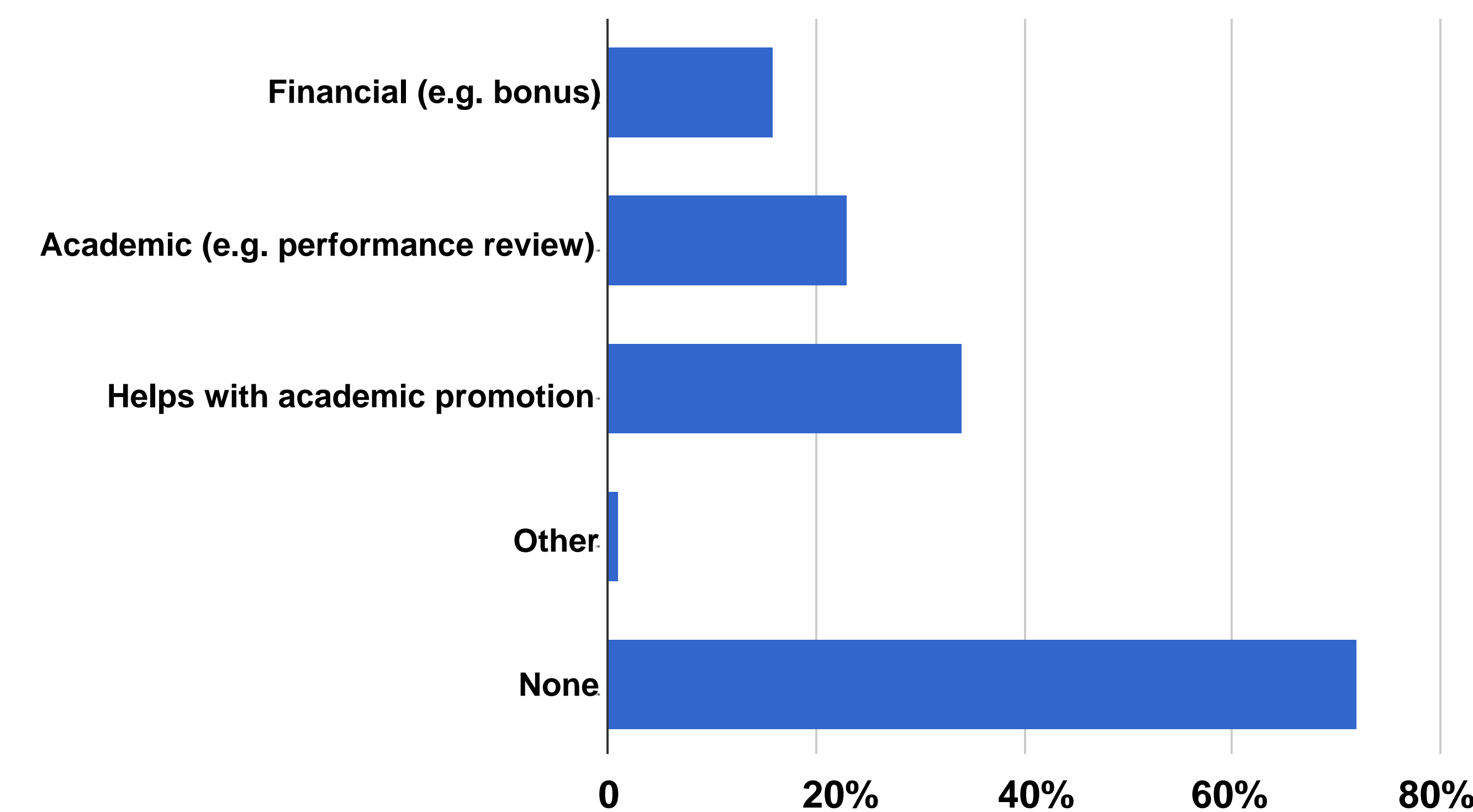
**Figure 1. Practice setting**



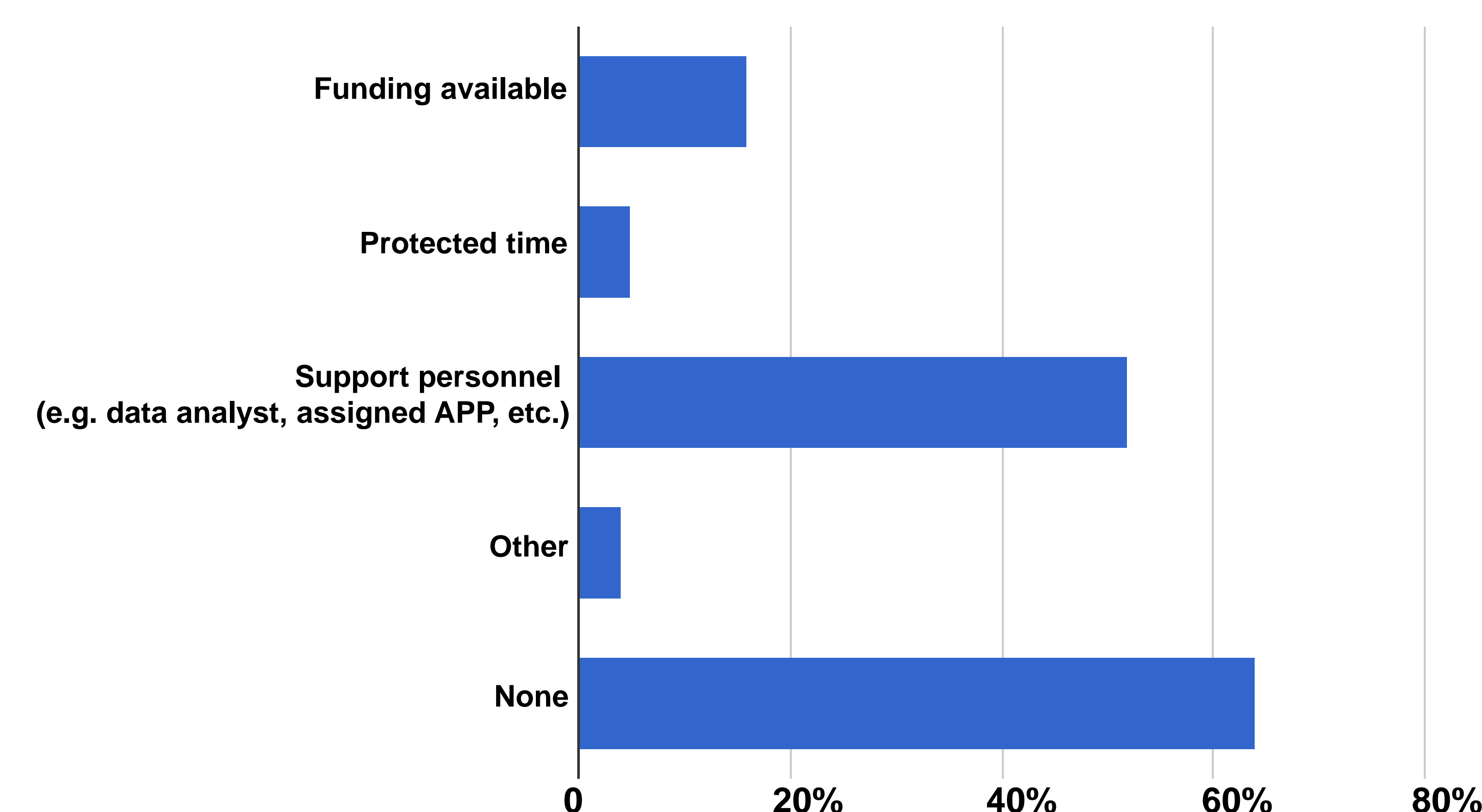
**Figure 2. Type of requirements for QI participation**



**Figure 3. Type of institutional incentives**



**Figure 4. Type of institutional support**



**Table 1. Top critical topics in pediatric neurosurgery suggested for future QI initiatives**

Most frequently suggested QI topics
Infection prevention and overall rates
Hydrocephalus-related topics
Standardized treatment algorithms for common disorders
Team communication
Pediatric neurosurgery specific database
Access to care
Interprofessional education

## Discussion

Areas of opportunity include:

- 1) Specialty-specific QI education,
- 2) Tactics for obtaining support to build QI infrastructure
- 3) Increased visibility of QI work within pediatric neurosurgery,
- 4) Review of available registries to provide readily available data relevant to this specialty.

The AANS/CNS Section on Pediatric Neurosurgery has created a QI committee with the following goals:

- 1) Evaluating and reporting on the role of QI in pediatric neurosurgery,
- 2) Advocating for QI support/infrastructure and foster means to share resources,
- 3) Providing education on Science of Improvement & Safety for pediatric neurosurgeons,
- 4) Establishing QI standards for pediatric neurosurgery and encouraging multicenter collaboration.

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## References

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