The Birth of Neurohospitalists

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Over a decade ago, the term hospitalist was coined to describe specialists in internal medicine, whose focus was primarily on inpatient care. Despite the considerable initial skepticism, this once fledgling group has grown rapidly into a well-established specialty containing more than 10 000 members in the United States.¹ Similar to the hospitalist movement, neurohospitalists have emerged focusing solely on neurologic inpatient care. Whether this is merely a passing fad or the beginning of an important movement comparable to the medicine hospitalist movement remains to be seen.

In this inaugural issue of *The Neurohospitalist*, we seek to address 4 fundamental questions about neurohospitalists: (1) What is a neurohospitalist? (2) What fueled the “birth” and growth of neurohospitalists? (3) What are the different functions of a neurohospitalist compared to other neurologists? and (4) What areas of research will define this subspecialty (eg, other than stroke and neurocritical care)?

What is a Neurohospitalist?

The definition of a neurohospitalist is a physician whose subspecialty interest is in the management of inpatients with neurologic disorders, without having outpatient responsibilities.²⁻⁶ Although this definition is broad, it is specific to neurohospitalists who are site-specific specialists. Neurointensivists, for example, are also site-specific specialists. Neurointensivists are defined by their assignment to neurologically ill patients in the intensive care unit, not just one part of the hospital. Neurohospitalists, however, can be responsible for all hospital neurologic patients including those in the emergency department (ED), ward floors, and intensive care units, as well as providing consultation on those patients with neurologic injury across a range of services. Neurohospitalists are also distinct from stroke neurologists, who by nature have subspecialty interest in vascular diseases and therefore are disease-specific specialists. However, stroke neurologists may indeed function as neurohospitalists and in fact do so at many centers.^{3,5} The 2 terms neurohospitalist and stroke neurologist are not mutually

exclusive in that sense, since in the hospital both can care for patients with stroke. Neurohospitalists, however, have subspecialty interest in a broader range of neurologic diseases that is specific to the inpatient realm (Figure 1).

What Fueled the Birth and Growth of Neurohospitalists?

The history of hospital neurology dates back as far as the 19th century to the time of Dr Jean-Martin Charcot.⁷ The birth of neurohospitalists refers to the creation of a unifying terminology for this inpatient neurological subspecialty.³⁻⁵

The rapid growth in neurohospitalists or inpatient neurology specialists has been fueled by similar economic pressures from the American health care system that spawned the birth of medicine hospitalists a decade earlier.²⁻⁴ In the mid-1990s, with the advent of intravenous tissue plasminogen activator, there emerged an increased demand for rapid evaluation and treatment of patients with stroke as well as a variety of other neurologic illnesses despite a national shortage of subspecialty coverage.⁸⁻¹⁰ Neurologists found it increasingly difficult to provide 24/7 onsite coverage to EDs in the face of the already busy demands of their outpatient practice. Given the small amount of reimbursement by Medicare and other payors for an initial ED visit (with elimination of consult codes), there is little incentive for private practice neurologists to provide hospitals and ED service, given the perceived “high risk versus small reward” (eg, litigation, sleep deprivation, interference with outpatient evaluations or tests, and burnout versus relative low levels of reimbursement).⁸⁻¹⁰

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What are the Different Functions of a Neurohospitalist Compared to Other Neurologists?

Neurohospitalists, similar to medicine hospitalists, focus on the process or system of health care delivery to patients at the hospital. This includes quality metrics (eg, dysphagia screening after stroke to prevent aspiration pneumonia and antithrombotic medication within 48 hours of admission), patient safety issues, managing length of stay, and reducing readmissions.⁴ Neurologists, who are outpatient based and occasionally cover the hospital on call, may not have time or interest to focus on inpatient quality and safety metrics on top of navigating the growing complexities of inpatient metrics and documentation. The value of medicine hospitalists to the system is in providing similar quality of patient care while simultaneously reducing the cost or the length of stay compared to nonhospitalist care.⁴ This value is also seen in improved efficiency of hospital processes for patients such as initiating tests or discharge process sooner than nonhospitalist models. This effect is not proven in the neurohospitalist literature as yet.

What Areas of Research Will Define This Subspecialty?

There is tremendous research potential for the neurohospitalist specialty, including, but not limited to, the study of similar benefits described by medicine hospitalists on length of stay and quality of inpatient care. Stroke is currently one of the most common neurologic diseases encountered in the hospital. Although stroke neurologists continue to expand research within this field on a pathophysiologic basis and evidence-based guidelines, the amount of literature devoted to studying the systems of care and impact of stroke metrics on patient outcomes remains relatively new and ripe for further research.⁴ To define itself, neurohospitalists must have a similar literature base as medicine hospitalists who have proven that their model works in relation to other models of care. Stroke is not the only disease topic that could be advanced scientifically and see patient care improved by neurohospitalists. Other potential areas of research include seizures, causes and treatment for weakness in hospitalized patients, evidence-based guidelines for managing other neurological disorders like Parkinson disease, multiple sclerosis, encephalitis, and more, all within the hospital setting.

Conclusion

Many questions about neurohospitalists still remain unanswered. Will they continue to flourish amid future major health care changes? Will they be able to continue to grow rapidly despite a finite supply of neurology graduates? If so, will this limit those going into neurocritical care or other related subspecialties? Finally, it remains to be seen whether

Figure 1. Neurohospitalist concept. A Venn diagram illustrates the scope of neurologic inpatient disease cared for or hospital location cared for by respective subspecialists of neurohospitalist, stroke neurologist, or neurocritical care (neurointensivist). The neurohospitalist specialty is broad and encompasses all neurologic diseases at the hospital (eg, not just stroke), whereas neurocritical care is specific to the neurological diseases encountered in the ICU. In addition, areas of knowledge may exist within a stroke neurologist, which may be outside the scope of a neurohospitalist (eg, ABPN Vascular Neurology Board competencies). Similarly, a neurointensivist has critical care knowledge, skills, or competencies that the neurohospitalist may not possess.

neurohospitalists provide similar benefits as hospitalists in terms of inpatient quality of care and reduced length of stay compared to nonneurohospitalist models of care. The future appears bright for neurohospitalists based on their recent growth. We hope the birth of this subspecialty leads to further research and discovery in science for all inpatient neurological diseases not just stroke and critical care.

Declaration of Conflicting Interests

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