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Neurohospitalists: challenges for the integration of a new field: a neurointensivist's perspective

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A new field of Neurohospitalist medicine is developing. The roots of this field are firmly in the field of Neurology. The development of the field however, may follow the path of its predecessor hospitalist medicine. It is therefore important to study the history of Internal Medicine and hospitalist medicine in order to understand where the field may be headed.

The field of Internal Medicine and medical education has undergone a metamorphosis over the past several decades. Historically, patients would be admitted to a hospital for medical evaluation. During this evaluation teams of residents with the attending physician would admit, evaluate, diagnose, and embark on an extensive treatment strategy. As average life expectancy increased, and newer technologies developed, the cost of caring for patients in an inpatient hospital setting became increasingly burdensome. Nationally, increasing health costs became a serious strain on the economic health of most industrial countries. Subsequently, the inpatient evaluation and treatment of most medical diseases became cost prohibitive and moved toward a more cost effective outpatient setting.

The movement of medical evaluations to the outpatient setting provided a challenge to internal medicine education. Residencies needed to mirror practice to appropriately prepare residents for their eventual post training place in internal medicine. Subsequently, internal medicine residencies have increased their outpatient requirements over the past few decades. This, however, has occurred during a time of mandated decreasing residency work hours and increasing in-patient volume and acuity. A solution for many of these residencies was the development and implementation of medical hospitalist programs and fellowship.

The development of Neurohospitalist programs appears to be following a similar path as internal medicine. Dr. Meschia has noted similar erosion in the in-patient experience of neurology residencies compared to changes that occurred in internal medicine programs (Meschia, 2010). Practice patterns have also shown parallels to Internal Medicine. Today many neurological diseases are evaluated and managed in the outpatient setting. Neurology inpatient services have also displayed a greater number of medical problems and complications.

In addition to these findings, the development and expansion of "acute neurology" and more specifically, the use of intravenous tissue plasminogen activator and the development of interventional procedures has increased the need for immediate neurological expertise. This need has superseded financial models to compensate and accommodate the necessary people and resources to adequately treat this patient population.

The development of the field of hospital neurology may provide a solution to this problem. The neurohospitalist can provide timely care for acutely ill neurological patients and can relieve neurology practices the need to cover an emergency room or a sick hospital population. Thus, there is a strong economic incentive for the development of the field.

This rosy scenario for the neurohospitalists, however, has many potential pitfalls and questions. How will neurohospitalists be organized? What skills will be needed or required for practice? Dr. Likosky's survey of neurohospitalists found that the majority of these physicians do not see patients in an outpatient setting (Likosky et al., 2010). Who will follow the patient once they have left the hospital? How will neurohospitalists be reimbursed? These are only a few of the questions a young field will need to address as it develops. Each of these questions and issues has potential difficulties.

One model for Neurohospitalist development is to have the neurohospitalist hired by a group practice. Reimbursement would be established by the group and patient follow up would be covered by the group. However, what if the neurohospitalists are hired and salaried by the hospital? as is the growing trend in medicine. Coordination with outside practices will take considerable skill. Inevitably "turf issues" will arise. Similarly what will happen when a neurologic emergency occurs when a patient is not covered by the neurohospitalists practice? Who will the emergency room physicians call when an outside neurologist or physician is unavailable or delayed? Most neurologists and physicians may be grateful for this help; however, so may patients who may wish to leave the outpatient neurologists practice to join the practice of the physician who cared for them during their crisis who may or may not have an outpatient practice.

A majority of neurohospitalists in Likosky's survey came from either a stroke or neurocritical care background (Likosky et al., 2010). This may represent selection bias of the survey or of individuals who chose to spend their time in the hospital. However, neurohospitalists should be able to provide consultative roles in all areas of the hospital including the intensive care units (ICUs). The neurohospitalists may be able to complement both the general neurologists and neurointensivists by dividing services, procedures, or consultations when necessary. Again a certain level of political skill may be needed to navigate these areas.

LESSONS FROM NEUROCRITICAL CARE

Neurocritical care developed largely from four academic centers in the late 1970s and 1980s. It developed slowly over the next decade and has shown rapid growth and consolidation with the development of training programs, a journal, and board certification. All of these stages were met with considerable resistance.

The first lesson learned from the development of neurocritical care would be to define the field and skills of practice. For decades neuro intensivists were viewed by medical and surgical intensivists as inferior.

They were labeled as ICU "light" or "not real intensivists." In part these early criticisms had validity in some cases for a number of reasons. One is the number of physicians in neurocritical care was small so neurointensivists could not provide the same level of coverage for their patient population as other fields. There was also no definition of certification of training for neurocritical care. Subsequently, the background, skills, and talents of those labeling themselves as neurointensivists were quite variable.

The above issues have improved with the development of accredited fellowship training programs through the United Council of Neurological Subspecialties (UCNS). Recently neurointensivists have been recognized by the leapfrog initiative to qualify as ICU physicians (Neurocritical care society website referral to Leapfrog initiative statement[1]).

An awareness of other areas of medicine that the field of neurohospitalist medicine will interact with will be necessary to move the field forward. An unforeseen consequence of certification in neurocritical care was the concern from outside groups that they would not be able to care for their patients if they lack appropriate certification. Thus, a lack of certification was viewed as placing other fields at legal risk. Organized neurosurgery labeled UCNS certification of neurointensivists as "self serving" and failed to recognize the validity of their training programs (American Academy of Neurosurgeons and Congress of Neurosurgeons position statement on neurosurgeons and neurocritical care[2]). Similarly, general intensivists decried UCNS certification as a continued fragmentation of the field of critical care (Krell, 2008).

Neurohospitalists will have the advantage of not having to incorporate non-neurology based physicians as nearly all neurohospitalists will be neurologists. However, the field will have to define their role with organized neurology, neurosurgery, neurocritical care, and hospital medicine based groups.

Now is the time for neurohospitalists to lay the groundwork for the field. This will include developing a society (the growing AAN section is a good start), and a journal (already under way). Certification may need to wait until the development of a critical mass of neurohospitalists. Politically, there may be resistance from other neurology groups as the field grows. Neurohospitalists will need to explore their role in supporting and working with neurosurgeons. The current climate of cost containment, increased effectiveness, and reimbursement patterns currently favor the development and growth of the field. If financial incentives and a good quality of life can be accomplished in this field, its future will be bright.

[1]http://www.neurocriticalcare.org/i4a/pages/index.cfm?pageid=3428

[2]http://www.aans.org/Media/Article.aspx?ArticleId=60212

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