Forensic Neurology and the Role of Neurologists in Forensic Evaluations

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There is a clear need for experts with the requisite knowledge and experience to offer medicolegal opinions pertaining to various neuropsychiatric conditions. There is also an important distinction between clinical and medicolegal roles, and the need for training and expertise applicable to forensic assessment. But there remain few available experts with credentials spanning neuropsychiatry and forensic assessment. This creates a dilemma whereby parties involved in litigation featuring neuropsychiatric illness or injury are frequently forced to choose between experts with either knowledge and skills applicable to neuropsychiatric conditions or experts with skills and experience applicable to forensic assessment. Either choice introduces risk. Whether flawed medicolegal opinions are a consequence of deficient medical knowledge or an inadequate forensic evaluation process, the result remains the same, with triers of fact potentially being exposed to problematic testimony. There is, however, a more fundamental problem that implicates patient care more broadly: spurious dichotomies created by the historical segregation of psychiatry and neurology. Optimizing clinical care for patients with neuropsychiatric conditions, improving medical education in support of such care, and enabling forensic neuropsychiatric assessment must then start with more proactive efforts to reintegrate psychiatry and neurology.

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Darby and colleagues[1] make a strong case for forensic neurology, and the need for experts with the requisite knowledge and experience to offer medicolegal opinions pertaining to various neuropsychiatric conditions. They also recognize the important distinction between clinical and medicolegal roles, and the need for training and expertise applicable to forensic assessment. They identify a very real problem in the lack of available experts with credentials spanning neuropsychiatry and forensic assessment. This creates a dilemma whereby parties involved in litigation featuring neuropsychiatric illness or injury are frequently forced to choose between experts with knowledge and skills applicable to neuropsychiatric conditions and experts with skills or experience applicable to forensic assessment. Either choice introduces risk. Insufficient knowledge pertaining to the medical subjects (e.g., skills in diagnosing a particular condition and measuring associated impairment) can result in erroneous conclusions. But so too can insufficient familiarity with medicolegal assessment, albeit for different reasons. Whether flawed medicolegal opinions are a consequence of deficient medical knowledge or an inadequate forensic evaluation process, the result remains the same, with triers of fact potentially being exposed to problematic testimony. Darby *et al.*[1] frame the concerns in the context of criminal cases, but the problem is equally real in civil litigation.

This is a problem that I similarly addressed in an editorial published in 2022 in The Journal,[2] albeit more specifically in the context of traumatic brain injury (TBI) and mild TBI litigation.

> Complicating matters is the fact that medical professionals engaging in mild TBI litigation as experts seldom have forensic training, let alone the training in neuropsychiatry needed to integrate clinical histories and presentations with complex combinations of cognitive, emotional, behavioral, sensory, motor, and other physical symptoms and signs with results from neuroimaging. While these physicians routinely hail from disciplines like neurology and physiatry, and bring considerable expertise in these areas, these are disciplines that do not afford opportunities for formal fellowship

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> training or certification in forensic assessment and practice, including the rules of evidence and the role of the medical expert. Such circumstances are problematic, as they interfere with the efforts of all parties involved in such cases to adhere to guidelines governing forensic assessment and testimony by physicians. The above-described problems could be obviated by more formalized medicolegal training being made available to various medical specialties and subspecialties, and by adopting more broadly applicable guidance on the separation of clinical and medicolegal roles (Ref. 2, p 339-40).

Indeed, the intersection of these two areas of expertise is a small one, leaving most medicolegal work done in the setting of neuropsychiatric illness or injury to experts with suboptimal qualifications. I am fortunate to have stumbled into a career that spans neuropsychiatry and forensic psychiatry, largely because of experiences during my forensic fellowship. In that context, I recall encountering various individuals and feeling uneasy about diagnostic formulations that felt forced into DSM terms. I remember one individual that I encountered as part of a psychiatric intake for the Department of Corrections. He was a bit too old for new onset bipolar disorder (but was diagnosed with such), and a bit too young for dementia, had gotten into serious legal trouble for out-of-character behaviors, and seemed oddly indifferent to his own plight. In retrospect, I suspect he was relatively early in the course of behavioral variant frontotemporal dementia (FTD; prominent apathy, interspersed with behaviors born of poor social comportment and impulse control, and leading to criminalized behaviors), a condition which was barely mentioned during my training in general psychiatry (now nearly twenty years ago). But something about that encounter, and others like it, compelled me to seek out additional training in Behavioral Neurology and Neuropsychiatry (BNNP), where knowledge gaps pertaining to conditions like FTD were quickly addressed.

Though we have thus far framed the problem in relation to a dearth of combined expertise in forensic psychiatry and neuropsychiatry, it is probably worth attending to an even more fundamental problem that implicates not just medicolegal arenas, but patient care more broadly. There are countless patients experiencing neuropsychiatric conditions (like FTD) and struggling to find providers with skill sets that integrate what we still routinely separate into psychiatry and neurology; such integrated skills are required to address their clinical needs optimally. So, while expanding forensic training opportunities across medical specialties is important, psychiatry and neurology should be looking to break down spurious dichotomies created by the historical segregation of psychiatry and neurology and attacking those divisions across the spectrum of practice. This needs to occur at multiple levels, starting with training at the medical student and residency stages, as well as via continuing medical educational activities supported by professional organizations targeting physicians already in practice.

The divorce between psychiatry and neurology goes back to the early 20th century.[3,4] Early on, neurology training involved more exposure to psychiatry than is presently required, and psychiatry programs required more training in neurology.[3] Nonetheless, it did not take long for shortcomings born of this separatiom to manifest, and in a fashion which foreshadowed present-day circumstances. Dr. Sheldon Benjamin[3] offers a brief history of neuropsychiatry.

> The term neuropsychiatry came into use in the United States in the closing stages of World War I in response to the military's need for specialists in the diagnosis of what are now called functional neurological disorders, and it enjoyed increased popularity, in contradistinction to psychoanalysis, after World War II. The term reemerged with the availability of more sophisticated neuroimaging techniques, advances in psychiatric neuroscience, the maturation of psychopharmacology, and the growth of neuropsychology and cognitive science. This reemergence was also facilitated by the rise of behavioral neurology as a neurological subspecialty. Amid the increased interest in neuropsychiatry, the British Neuropsychiatry Association was founded in 1987, and the American Neuropsychiatric Association (ANPA) and Journal of Neuropsychiatry and Clinical Neurosciences were established in 1988 (Ref. 3, p 11).

History does seem to repeat itself, and we now find ourselves facing similar challenges many decades later, and with yet another generation of military service persons and veterans. Both patients and providers frequently struggle to realize integrated evaluation and treatment that attends to both the consequences of biomechanical trauma (i.e., traumatic brain injury, TBI) and psychological trauma (i.e., posttraumatic stress disorder, PTSD), or recognize when such injuries cause or contribute to symptoms of a functional neurological disorder (FND). This is a problem that extends beyond our military service members and veterans, with many individuals across the general population experiencing FND and routinely struggling to receive accurate diagnoses. Those fortunate enough to be accurately diagnosed will often continue to struggle with finding providers who are able and willing to treat that condition.

Though there has been a relatively recent resurgent interest in FND, with some treatment centers dedicated to this patient population, the availability of such treatment lags far behind clinical needs. The experience of many patients with FND illustrates the shortcomings born of the separation of psychiatry and neurology, as they shuttle between psychiatrists who are unable to recognize the functional nature of presenting symptoms, and neurologists not sure how to treat what they in turn view as a mental health problem. I happen to be writing the present article on the eve of departing for the annual meeting of the American Neuropsychiatric Association (ANPA), where the Forensic Special Interest Group (SIG) and the FND Special Interest Group will continue a collaboration to address the intersection of FND and litigation. This collaboration is born of shared experiences across the two SIGs with increasing recognition that beyond the already-discussed challenges in obtaining clinical care faced by patients with FND, FND is more frequently becoming a subject of litigation, and that there remain very few experts with combined experience in both FND and forensic assessment.

Though professional organizations like AAPL and ANPA can facilitate interdisciplinary collaboration that supports neuropsychiatric education more generally and instruction for forensic assessment, it seems imperative that we address some of these deficiencies earlier in training. The above-described unmet needs experienced by patients because of historical divides between psychiatry and neurology simultaneously translate into unmet training needs encountered throughout medical school and residency. Without faculty and clinical training opportunities invested in neuropsychiatric assessment and treatment, it will be difficult to break down these walls, and we are liable to perpetuate spurious dichotomies that do not serve our patients well. TBI, FTD, and FND, while highly illustrative examples, represent but a few of the numerous neuropsychiatric conditions wherein current models and existing silos frequently fail to meet patients' needs.

As mentioned above, neuropsychiatry and behavioral neurology joined forces to create the subspecialty of BNNP. In support of that subspecialty, The Joint Committee on Subspecialty Certification of the ANPA, in association with the Society for Behavioral and Cognitive Neurology, described a core curriculum for training in BNNP[4]:

> Behavior neurology and neuropsychiatry share the core philosophical position that brain and behavior are inseparable. Reciprocal interactions between psychological factors and neuropsychiatric illness are appreciated, yet both are fundamentally understood in terms of brain function and dysfunction. Clinically, behavioral neurologists and neuropsychiatrists elicit and construct comprehensive patient histories that emphasize neurodevelopmental and environmental influences on cognitive, emotional, behavioral, and elementary neurological function. Interpreting clinical signs, symptoms, and syndromes as reflecting neural processes supersedes conventional (i.e., DSM-based) psychiatric diagnoses, and the historical dichotomization of clinical conditions into strict "psychiatric" or "neurological" types is rejected in favor of a more integrative approach. A principal goal of this integrative approach is to transcend the mind-brain duality reflected in the separation of psychiatry and neurology (Ref. 4, p 7).

The clinical and scientific purview of BNNP is indeed a broad one, such that most patients with conditions traditionally dichotomized as either psychiatric or neurologic, are likely to benefit from an integrated neuropsychiatric approach. Examples offered include:

1. Focal neurobehavioral syndromes (e.g., aphasias, apraxias, agnosias, aprosodias, apathy, executive dysfunction, orbitofrontal syndrome);
2. Major neuropsychiatric syndromes (e.g., delirium, the dementias, and the major primary psychiatric disorders, including those with atypical or refractory presentations);
3. Neurological conditions with cognitive, emotional, behavioral features (e.g., dementias, movement disorders, stroke, epilepsy, multiple sclerosis, TBI); and
4. Comorbid neuropsychiatric and neurological conditions (e.g., Down's syndrome and Alzheimer's disease, obsessive-compulsive disorder and Tourette's syndrome, Huntington's disease and alcohol abuse) (Ref. 4, p 7).

The goal of the present commentary is not to reiterate the proposed curriculum, but to advocate for more widespread inclusion of this curriculum into training programs for both psychiatry and neurology, and for more routine cross-departmental educational efforts to make neuropsychiatric assessment a foundational skill set for all medical professionals specializing in brain health and function (i.e., psychiatry and neurology). This would, in turn, set the stage for more optimal forensic assessment in medicolegal matters where brain health and function are of concern. As with so much of our past, retrospective analysis of the historical origins of present-day psychiatry and neurology reveals inequities perpetuated by traditions. Optimizing clinical care for patients with neuropsychiatric conditions, improving medical education in support of such care, and enabling forensic neuropsychiatric assessment must then start with proactive efforts to reintegrate psychiatry and neurology.

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