Rethinking Regional Neurologic Care in the Coronavirus Disease 2019 Era

Many hospitals have taken great steps to limit admissions and nonessential services in anticipation of a large surge in visits from patients with coronavirus disease 2019 (COVID-19) for the subsequent months. Overtriage, the unnecessary mobilization of patients to highly specialized medical centers, places a significant threat on hospital capacity at receiving medical centers, many of which are the same centers at risk of overcrowding in the new era of COVID-19. Reducing overtriage for patients with neurologic disease and finding other ways to care for these patients at a distance is more important now than ever.

Neurologic Interhospital Transfers
Acute care transfer rates for neurologic disease are twice that of most other conditions. Stroke and intracranial trauma are among the most common indications for transfer. With the growth of tissue plasminogen activator (tPA) administration for ischemic stroke and mechanical thrombectomy for large vessel occlusion (LVO), neurologic transfers continue to increase. On average, the rate of acute care transfers from US community emergency departments was 1 in 5 visits for ischemic stroke in 2014, and many of these visits were for patients with small stroke or transient ischemic attack who could be cared for at community hospitals given the resources needed for routine diagnosis and management. Additionally, an increasing number of regional stroke networks have moved to community hospital bypass using decision algorithms and imperfect screening protocols that place a high value on the sensitivity of diagnosis as opposed to specificity, which may allow for an unknown degree of overtriage to tertiary care centers.

Health Care Changes in the COVID-19 Era
As fears continue to promulgate with rising COVID-19 cases and increasing uncertainty surrounding risks to the public, patients, and clinicians, it is important to consider care alternatives that are in the best interest of everyone. Since the COVID-19 pandemic reached the United States, hospitals have become a drastically different place to work. While policy changes may vary by institution, most major medical centers have taken several actions to prevent the spread of disease. Many hospitals have eliminated nonessential services, postponed elective surgical procedures, and some health care systems have instituted policies to redirect low-acuity admissions away from COVID-19 hospitals. Other changes include reducing team size for social distancing, optimizing personal protective equipment, and limiting patient contact. These changes are in effect with the ultimate goal of minimizing the spread of COVID-19 and maximizing the available workforce for all patients.

Adapting to Patient-Clinician Distancing
In the wake of the pandemic, health care professionals and facilities must be nimble and innovative to limit the potential spread of disease while maintaining a high standard of neurologic care.

From a neurologic perspective, 3 initiatives are especially needed: (1) optimizing the use of telemedicine services for emergency neurological issues, (2) preventing secondary overtriage for neurological transfers, and (3) creating innovative strategies to minimize risks during and after interhospital patient transfer.

Optimizing Telemedicine
As hospitals continue to push distance between health care clinicians and patients in an effort to prevent the propagation of COVID-19, neurologists and stroke clinicians need to consider every potential to rapidly develop and grow distance services such as telemedicine. There is an urgent need to identify trained telemedicine clinicians, expand available technology, and create distance medicine relationships with community hospitals and emergency departments. Various governmental agencies, payers, and other stakeholders have made decisions to expand coverage for telehealth services and loosen some regulatory barriers related to telemedicine; this is critical in a time when clinicians should be incentivized, not disincentivized, to provide remote care.

Reducing Overtriage
Interhospital transfers pose a risk to infectious disease spread. With COVID-19 widespread in the United States, medical clinicians need to be increasingly cautious when deciding who to transfer and how patients are transferred from 1 health care facility to another. This presents an opportunity to focus on strategies that reduce overtriage. For stroke care, one major challenge for reducing overtriage will be changing a system from protocols favoring high sensitivity, designed to capture any and all LVO patients, to higher-specificity protocols that focus on mobilizing only those patients who absolutely need comprehensive stroke center or tertiary care services.

There are several strategies to reduce overtriage. Tertiary care centers affected by COVID-19 should place a hold on any existing bypass strategies, require community emergency department clinicians and telemedicine consultants to eliminate the routine transfer of patients with transient ischemic attack, and establish a set of prespecified criteria for qualifying and nonqualifying patient transfers. Qualifying criteria for transfer include the urgent need for intervention (eg, thrombectomy, carotid revascularization, or hemicraniectomy), highly specialized monitoring if unavailable at a dis-
Disease Control and Prevention. A recent report of 72,314 cases from the Chinese Center for Disease Control and Prevention highlights the importance of lessons from the coronavirus disease (COVID-19) outbreak in China: the need for a coordinated approach to prevent the spread.

**Additional Contributions:**

Conflicts of Interest Disclosures: None reported.

**References**


