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**Commentary on:**

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The COVID-19 Pandemic and Global Neurosurgery: The Situation in Japan and the Philippines

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We have read with great interest the article by Andrews¹ that summarily describes the current literature on Global Neurosurgery as mostly defining the problems, but less so on the solutions. We agree that the COVID-19 pandemic has somehow upended Global Neurosurgery as a movement, and yet the times would surely present more opportunities. We would like to describe the situation—in our countries of differing income levels—along both lines of identifying the problems and pointing toward potential solutions.

DIFFERING PROBLEMS AND CROSS-COUNTRY DISPARITIES

In Japan, the number of COVID-19 patients rapidly increased from the end of March. Universal health insurance coverage, the large number of hospitals, and the free and equal access to health care are Japanese health care characteristics that have helped maintain the quality of medical care. To maintain this health system, the guidelines for neurosurgical treatment during the pandemic published by the Japan Stroke Society give priorities to minimize the risk of infection among health care workers.² Based on the guidelines, hospitals should take utmost care to prevent infection spread. The biggest problem for university hospitals or core hospitals is that once an infected patient is admitted to the hospital, it requires a lot of workforce and time, limiting regular medical care. Another critical problem for clinics or small regional hospitals in Japan is that patients are reluctant to visit outpatient clinics for fear of infection in the hospital. The number of patients in a private regional neurosurgical hospital, Tsurumi Hospital, which has 29 beds

and approximately 140 annual surgeries, dramatically decreased. In April, the number of new patients, total patients, emergency transportations, and surgeries decreased from 275 to 74 (27%), 1407 to 1144 (81%), 33 to 19 (58%), and 16 to 8 (50%), respectively, compared with the same month last year. This reluctance to seek essential neurosurgical care is worrisome for a worsening of overall public health.

In the Philippines, the spread of COVID-19 continues unabated, and while the pandemic rages on, other illnesses requiring inpatient neurosurgical care are in no way decreasing. At baseline, financial and geographic barriers have long existed, and poorer patients undergo neurosurgical treatment from publicly funded hospitals.³ However, the pandemic has highlighted the inequities of access to neurosurgical care as a result of the preexisting maldistribution of facilities, health staff, and specialists. The current situation disproportionately affects socioeconomically disadvantaged patients due to greater barriers to neurosurgical care. At the Jose R. Reyes Memorial Medical Center, a public multispecialty referral hospital in the capital region, there was a 50%–60% decrease in neurosurgical operative volume during the past months, mostly because elective surgeries had to be cancelled. Neurosurgical outpatient care abruptly transitioned into the telemedicine format, and we found this aid of technology to our existing services to be responsive to the poor segments of the population in particular.⁴ However, in the rest of the country, those needing urgent neurosurgical evaluation still find themselves less prioritized by hospitals that become

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increasingly overwhelmed with patient volume as a result of COVID-19. Resource-intensive noncommunicable diseases that commonly require neurosurgery as part of treatment—such as stroke and ruptured brain aneurysms—have seen delays in management. Given that patients in the Philippines are more likely to die from ischemic and hemorrhagic stroke than in Japan,⁵ the recent pandemic situation now severely highlights the disparities of outcomes among patients based on their country of origin.

SOLUTIONS ARE INDEED “FAR BEYOND THE NEUROSURGICAL OPERATING ROOM”

Indeed, the COVID-19 pandemic has affected populations across international borders. At a time when public-health measures—however lacking or excessive—have become the mainstay of interventions for global health systems brought about by the pandemic, the routine care of patients who need neurosurgical treatment has been subjected to externalities like never before. In this regard, we agree with Andrews that potential solutions also lie beyond the sphere of everyday neurosurgical practice.

Uncertainty in outlook seems to be the rule for now. We do not know when neurosurgical care for non-COVID patients will

revert to prepandemic normalcy. While the world looks forward to vaccination as the best way to end the pandemic, there are surmountable challenges before it becomes an end-all solution: the capacity to produce billions of vaccine doses, the funding to pay for them, and systems to deliver them worldwide. Similarly, we find that those 3 aspects—capacity-building, financing, and health systems improvement—appear to be the way forward in ensuring better access to neurosurgical care across countries and settings of varying income levels.⁶

Surgical care is indeed necessary in this day and age,^{7,8} and the times call for the global medical community to realize that much work remains to be done in bridging the gap between the ideal and the realities of neurosurgical care. Similar to how the current times have taught us that temporizing measures for the problem of COVID-19 lie beyond pure basic medical science, problems in the delivery of specialized surgical care that is neurosurgery might find corresponding solutions in spheres that lie at the outset of individualized patient care. Revisiting a health-systems approach⁹ that accelerates technology diffusion¹⁰ and that also reorganizes relevant financing and governance arrangements,^{11,12} can gradually, but surely, bridge the gap in neurosurgical care for the more socioeconomically disadvantaged populations of the world.

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