

Providing Stroke Expertise across India

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J Neurosci Rural Pract 2021;12:226–227.

The vast majority of people in India live in a region with no stroke units, and no neurological expertise.¹ Yet, stroke unit care is one of the most effective treatments for stroke, and provides the necessary infrastructure on which to build capacity for medical and neuro-intervention.² Some acute stroke treatments are very cheap, and potentially available without expensive facilities, e.g., immediate aspirin for acute ischemic stroke and blood pressure lowering for hemorrhagic stroke.^{3,4} How should health care planners start to build stroke unit capacity in India. The article by John et al provides some new important data.⁵ These authors performed a before and after study of an implementation of a physician-based stroke unit model in a remote hospital in North East India.

Key components of the intervention included a stroke expert who was willing to provide time for mentoring and training, and identification of a local champion—a physician, who in a “train the trainer” model, helped educate the local team in basic stroke unit care. In this case, the local team includes the doctors, nurses, physiotherapist, and occupational therapist. The stroke unit care items were classed under “monitoring,” “acute management,” “team working,” and “discharge planning” and, as is the case with many important health service interventions, it consisted of doing many simple tasks comprehensively.⁶

Their results were important. Although the study was too small to reliably estimate differences in functional outcome their processes of care clearly improved, particularly in swallow screening, use of antithrombotic therapy, and use of electrocardiograms to identify atrial fibrillation. Mobility assessment improved and every patient, post intervention, was discussed at a multidisciplinary meeting.

Challenges in rolling out such a model across India include the lack of sufficient numbers of Indian stroke experts to provide the required mentorship and training, but this is not a problem limited to India, with stroke expertise lacking in both high- and low-income countries.^{7,8} The self-nomination of a local physician willing to take on this role, and extend

support in the local hospital, will also be a key limiting factor. Time and time again, the key to health service behavioral change is a local champion, and such champions can influence their local management.⁹ The results from the Tezpur study demonstrating a statistical decrease in hospital length of stay will be of particular interest to health providers with limited hospital beds. I strongly encourage all those in hospitals without stroke units to consider rolling out this model. But life is never that simple and next steps should also include implementation research to explore the best local incentives to attract physicians who are willing to take on stroke unit development, and explore different models of mentorship and roll out. Global funding opportunities should be sought to fund such important implementation research.¹⁰

One positive aspect of the current COVID-19 pandemic has been the enormous uptake of technology in medicine with videoconferencing becoming routine, and this, together with digital technology support with smartphones and smartphone applications could be explored to expand the basic stroke unit model as exemplified by the Tezpur model.

Once basic stroke units are established, treatment options can be advanced according to the local resources, such as consideration of thrombolysis and possible pathways to neurointervention (more feasible in areas near large urban centers). Given how common stroke has become (the main cause of death in some areas of India¹¹) the next priority would be developing an Indian model of stroke rehabilitation following discharge from the stroke unit. Unfortunately, several low-cost models of care have not been shown to be beneficial (such as family-led rehabilitation, or nurse-led rehabilitation).^{12,13} Centre-based stroke support and rehabilitation may well be the best model to evaluate with some promising data from Africa on such a service.¹⁴

Stroke will remain a leading cause of premature death and disability for decades and the Tezpur model of basic stroke unit care provides a key example of cascading expertise to the population. Efforts to roll out this model should be a priority.

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DOI <https://doi.org/10.1055/s-0041-1726664>
ISSN 0976-3147

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Conflict of Interest

R.I.L. reports his extensive collaboration in India and currently has a project based here.

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