

The future of AVS, dizziness, and vertigo in emergency departments Part iii: A tyranny of distance – the persistence of rural health inequity

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In the third article of this five-part series, Dr Millie Nakatsuka discusses the impact of isolation on health equity and the medical decision-making for emergency presentations of acute vestibular syndrome (AVS).

Geographic isolation is a major barrier for healthcare access globally.

People in rural and remote areas bear a significantly higher burden of disease and have poorer health outcomes. They have greater socio-economic disadvantage with lower levels of educational attainment, lower rates of employment, lower income and exhibit more health risk factors with markedly increased rates of obesity, tobacco smoking and alcohol consumption.

Their healthcare costs are much higher and their health access is much lower – factors that distort traditional medical decision-making.

Australia is a prime example of a healthcare system that has been a prisoner of geography. The population concentrates along the south-east coast, with 28% of the population living in rural and remote areas dispersed across three-quarters of the continent.⁽¹⁾

She is a pioneer – having developed the first aeromedical service, and the first specialist medical college dedicated to rural and remote medicine.

Australia is a good case study for other countries, illustrating the three major systemic barriers for health equity: poor infrastructure, limited workforce, and mistargeted public policy.

1. Poor infrastructure

Providing healthcare services to rural and remote areas incurs additional costs due to poor infrastructure.

Emergency departments without on-site diagnostic services (pathology or neuroimaging) may require urgent transport of specimens or patients, while critically ill patients may require urgent aeromedical transfer.

Despite the high transportation costs, isolated hospitals cannot afford their own facilities due to economies of scale and workforce shortages.

Unfortunately, the Australian government has underinvested in telemedicine. Reliable broadband with live video-conferencing equipment can bend the iron rules of geography by facilitating safe and efficient access to metropolitan subspecialists, reducing the need for expensive transport.

Physical examinations for AVS cannot be conducted over the phone, and use of video-oculography in emergency departments is still being trialled.⁽²⁾

2. Limited workforce

Rural and remote areas are particularly affected by physician maldistribution, in terms of both numbers and access to subspecialists, often only found in large tertiary hospitals.

There is also wide variation in the expertise and experience of emergency department clinicians, with general practitioners often replacing dedicated emergency physicians, and less experienced junior or temporary staff providing afterhours cover.

Workforce shortages mean that emergency department clinicians are often simultaneously staffing other medical roles – the town's general practitioner, the hospital's general physician for inpatients and the afterhours medical service.

This increases physician burnout and reduces opportunities for workforce education and training, especially for new physical examination skills (required for AVS). Superior incentives are required to attract physicians to consider permanent work in isolated areas.

3. Mistargeted public policy

As part of the Stronger Rural Health Strategy, the Australian government has proposed numerous initiatives to improve the health of rural and remote communities.⁽³⁾ This includes increasing funding for aeromedical services, such as the Royal Flying Doctor Service.

There is also increasing awareness of the significance of geographical health inequity through the efforts of strong advocates of rural and remote issues.

However, the Australian government continues to have a piecemeal strategy that will not meet the needs of rural and remote communities, with both vastly inadequate investment in infrastructure (especially telecommunication) and a fixation on controversial incentives to address workforce shortages.

For instance, time-sensitive bonded arrangements with a fixed period of rural work in return for scholarships or visas, while assisting with short-term recruitment, have been shown to be a malinvestment that does not help retain staff once obligations have been fulfilled.⁽⁴⁾

Yet funding remains focused on what is ultimately a non-sustainable and low-quality workforce, attracting temporary physicians who do not have the unique skills or dedication required for rural practice. Advocates need to more effectively influence public

policy for evidence-based and cost-effective strategies.

Impact of isolation on medical decision-making

Rural and remote emergency departments are unlikely to have adequately trained physicians to perform and interpret the complex bedside examinations for AVS. This is a significant challenge as services may lack the capacity to safely and efficiently access mainstream services and subspecialists – a privilege reserved for metropolitan hospitals.

Standard clinical guidelines do not fully appreciate the challenge of healthcare access for isolated hospitals and offer recommendations that are often not feasible. ⁽⁵⁾

It may be difficult (or impossible) to obtain neuroimaging or have a subspecialist examine a patient to help differentiate between stroke and non-stroke causes of AVS.

While alternative recommendations are offered, these are still often not feasible, such as transferring patients to a larger hospital with appropriate resources or admitting them for further observation.

Aeromedical transfers are not only costly, they are also unreliable and can be delayed or cancelled by weather conditions and aircraft availability. Isolation also impacts discharge planning, for community healthcare access is similarly constrained. Patients in rural and remote areas may not have a general practitioner who can provide follow-up or it may not be feasible to attend appointments in-person or telemedicine.

Paradigm shift

The Australian College of Rural & Remote Medicine equips “rural generalists” with advanced training in emergency medicine and other subspecialties including anaesthesia, surgery and obstetrics.

Australia is the only home of two medical colleges for general practitioners acknowledging rural and remote medicine as its own distinct medical specialty as it is essential for general practitioners to acquire additional skills to meet the needs of rural and remote communities.

This new model of medical education and training takes into consideration local resources and economic realities, providing valuable clinical guidelines that do not assume access to mainstream healthcare.

Such tailoring has medicolegal benefits, as rural and remote physicians were vulnerable to accusations of working outside their scope of expertise or non-standard practices. This paradigm shift has great potential, and other countries could consider its adoption.

Upcoming article in 2024

In the upcoming article, we suggest public health interventions to achieve a population-wide paradigm shift to reduce the burden of unnecessary neuroimaging.

1. Australian Institute of Health and Welfare. Rural and remote health [Internet]. Canberra: Australian Institute of Health and Welfare, 2024 [cited 2024 Jun. 1]. Available from: <https://www.aihw.gov.au/reports/rural-remote-australians/rural-and-remote-health>
2. Acute video-oculography for vertigo in emergency rooms for rapid triage (AVERT) [Internet]. 2024 [cited 2024 Jun 1]. Available from: <https://classic.clinicaltrials.gov/ct2/show/NCT02483429>
3. Australian Government Department of Health and Aged Care. Stronger Rural Health Strategy [Internet]. Australian Government Department of Health and Aged Care; 2022 [cited 2024 Jun 17]. Available from: <https://www.health.gov.au/topics/rural-health-workforce/stronger-rural-health-strategy>.
4. Bärnighausen T, Bloom DE. Financial incentives for return of service in underserved areas: a systematic review. BMC Health Serv Res. 2009 May 29;9:86. doi: <https://doi.org/10.1186/1472-6963-9-86>. PMID: 19480656; PMCID: PMC2702285.
5. Edlow JA, Carpenter C, Akhter M, Khoujah D, Marcolini E, Meurer WJ, Morrill D, Naples JG, Ohle R, Oron R, Sharif S, Siket M, Upadhye S, E Silva LOJ, Sundberg E, Tartt K, Vanni S, Newman-Toker DE, Bellolio F. Guidelines for reasonable and appropriate care in the emergency department 3 (GRACE-3): Acute dizziness and vertigo in the emergency department. Acad Emerg Med. 2023 May;30(5):442-486. doi: <https://doi.org/10.1111/acem.14728>. PMID: 37166022.

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