BMJ Global Health

The rural surgeon: a practice to strive for

Vanitha Raguveer ,[1,2] Riya Sawhney,[3] Nobhojit Roy ,[3,4] Nakul Raykar[1,5]

To cite: Raguveer V, Sawhney R, Roy N, *et al*. The rural surgeon: a practice to strive for. *BMJ Glob Health* 2024;**9**:e013449. doi:10.1136/bmjgh-2023-013449

VR and RS contributed equally.

Received 17 July 2023
Accepted 30 July 2023

[1]Program in Global Surgery and Social Change, Harvard Medical School, Boston, Massachusetts, USA
[2]University of Illinois College of Medicine at Chicago, Chicago, Illinois, USA
[3]WHO Collaborating Centre for Research in Surgical Care Delivery in Low- and Middle-Income Countries, Mumbai, India
[4]Public Health Sciences, Karolinska Institute, Stockholm, Sweden
[5]Department of Surgery, Brigham and Women's Hospital, Boston, Massachusetts, USA

Correspondence to
Dr Nobhojit Roy;
nobhojit.roy@ki.se

INTRODUCTION

The milestone publication of the Lancet Commission on Global Surgery in 2015 carved a niche for the field of academic global surgery, creating space for partnerships between surgeons from high-income countries (HICs) and low-income and middle-income countries (LMICs).[1 2] However, academic authors from HICs dominate the story of global surgery, frequently blocking out experienced voices from the front line.[3] LMIC rural surgeons - at the forefront of providing access to surgery for the world's poorest- work mostly in silence, and their contributions to global health remain largely undocumented. Rural surgery represents a space of true human connection, where clinicians battle face-to-face with the challenge of resource-limited care and celebrate health and joy alongside patients, colleagues and members of the community. However, with low trainee exposure to the field, significant perceived challenges to practising in low-resource environments and high attrition rates, difficulties persist in maintaining a consistent, committed rural surgery workforce.[3 4] How can we ensure high-quality surgical care in rural communities? What lessons can we learn from current rural surgeons, about their motivations and the path to ensuring a reliable workforce in rural areas? In this essay, we explore the motivations that drive surgeons to practise in rural settings and the barriers they face in this journey.

To better understand the draw of rural surgery, we look specifically at the Gudalur Adivasi Hospital (GAH), located in a small township in South India.[5] Surrounded by the Nilgiri mountains, it is a 4.5-hour drive over 135 km from the nearest airport, with limited road access to other facilities. The hospital caters primarily to the local tribal community, or 'adivasis', a marginalised population that has historically had limited access to modern healthcare systems. Established in 1990 by the Association for Health Welfare in Nilgiris (ASHWINI), the hospital has 50 beds, 2 operating rooms (ORs) and 8 peripheral centres, and serves primarily 20 000 tribal patients and more than 200 000 non-tribal patients. They provide a breadth of facilities, with standing surgical, anaesthetic, obstetric and gynaecological care, as well as general practice, microbiology, imaging and blood bank services. Clinicians visiting from nearby tertiary care centres such as St John's Medical College in Bangalore provide additional services that range from orthopaedics to vascular surgery. By providing educational and employment opportunities for community youth, and women in particular, the ASHWINI team became a staple of the tribal society, earning the community's trust.

Dr Nandakumar Menon, a co-founder of the GAH and ASHWINI, is a now-retired general surgeon and pillar of the wider community. 'Dr NK', as he is fondly called, attended medical school in India before moving to the USA for his residency. His move to the USA was always contingent on eventually returning home to India, to care for the most vulnerable communities. Following his training in the USA, he returned to India and started working with the tribal communities in the Gudalur area, building up the now-prolific health system from the ground up with his wife, Dr Shylaja Devi, a gynaecologist.

MOTIVATIONS TO GET INVOLVED

As evidenced by Dr NK's story, rural surgery is for many, a calling rather than a choice of career. The decision to leave a comfortable surgical career in the USA or urban Indian institutions was an obvious one for Dr NK, who felt compelled to care for marginalised communities. To many, this drive to serve the underserved and give back to society is a moral imperative, a duty inherent to human existence. However, while the spirit of service is one that inspires many to pursue medicine, very few continue the call to practising rural medicine. For Dr NK, the road to rural surgery was paved by exposure to the field and inspiring mentorship. Neither of these were easily found—driven by his own internal investment, he sought out opportunities

to participate in rural care. During medical school, he learnt of the higher mortality in rural areas and became increasingly curious about the cause. This question inspired him to spend his year off, prior to residency in the USA, practising at a rural missionary hospital in Tamil Nadu. Here, he observed firsthand from mentors that a rural surgeon must be involved in care outside of surgery, such as education and community building. This year of practice solidified his future path. When he returned to India from his US surgical residency, despite the urging of many other colleagues and advisors to pursue a more academic career, he remained committed to the goal of rural practice. Supportive mentors helped him develop critical skills like delivery of anaesthesia and identify potential rural practice opportunities. It was these experiences and mentors, in combination with his unbreakable investment in service, that allowed Dr NK to create a thriving, community-centred rural practice.

MOTIVATIONS TO STAY INVOLVED

Getting GAH up and running was only the first of many milestones. As he worked with the community, Dr NK uncovered several challenges that further fuelled his passion for rural practice. As a rural surgeon, he was required to rely on not just technical expertise and operative skills, but also clinical acumen, to understand the patients' widespread needs. For example, on noticing a predominance of joint pain and breathlessness in the patients, he recognised the diagnosis of sickle cell anaemia and set up a dedicated clinic. Further, faced with limited funds and supplies, he capitalised on exciting opportunities for frugal innovation. When Dr NK realised the need for trauma care to treat farming accidents and animal attacks, he fashioned an OR, with a homemade operating table, using natural light sources and practising waste reduction. By seeking out grants, public–private partnerships and personal funders, the ASHWINI team was able to scale up their operative care to two ORs, even offering laparoscopy. A rural surgeon's ability to engage with the intertwining impacts of socioeconomic status and health was another motivating factor. Dr NK was excited to prioritise the education of the community they served, ensuring the sustainability of their initiative. When approached by enthusiastic young tribals who could read and write in the regional languages, the team trained them to be nurses, pharmacists and laboratory technicians. Moreover, to address the community's needs, they set up learning centres in villages to help supplement the local primary school curriculum. Today, non-tribals are a minority on the ASHWINI board—it was a key milestone to transition ASHWINI to a majority tribal-run organisation, so that the community itself sets its goals and shapes its future. Such undertakings speak to the many rewards of rural practice, from holistic clinical work, exciting opportunities for innovation and unmatched relationships built with the community.

CALL TO ACTION

Rural surgery is a true representation of health equity, bringing the complexities of surgical care to the peripheries of society. Practising rural surgery requires clinical expertise, innovative perspectives and a genuine commitment to serve on an individual level. Programmes such as the Rural Sensitization Program and the Rural Hospital Network in India can provide spaces for medical students and all types of health professionals to explore rural surgery and seek out employment opportunities.[6 7] However, individual efforts are not sufficient in the path to improving access to surgical care—there must be systemic efforts to increase and strengthen the rural surgical workforce. Medical schools around the world should develop similar rural surgery opportunities and take thoughtful action to increase exposure and education on rural surgery.[8] Residency programmes should carefully consider opportunities for training, research and mentorship in the rural context.[9] Moreover, health systems must incentivise rural practice to attract and retain the necessary talent.[10] Debt forgiveness programmes, increased salaries and tax subsidies are among the many ways governments can invest in sustaining a rural workforce. By publicising the work of rural surgeons, increasing trainee exposure to rural medicine and incentivising practice, we can inspire a new generation of surgeons to engage in the rewarding, important work of achieving health equity worldwide. Surgeons like Dr Nandakumar Menon embody the true essence of holistic clinical care—creatively and masterfully serving the multifaceted needs of the community, beyond the OR. In Dr NK's words, "I'm not a martyr, I'm having so much fun here".

X Vanitha Raguveer @VRaguveer and Nobhojit Roy @nobsroy

Acknowledgements We sincerely thank Dr Nandakumar Menon for sharing his wisdom and experiences with us! We also thank Dr Alisha Kalyanpur for her perspectives as an aspiring rural surgeon and a mentee of Dr Nandakumar.

Contributors RS and VR contributed equally to this paper and wrote the manuscript. NRo and NRa conceptualised the original idea and provided critical review of the draft.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

Ethics approval Not applicable.

Provenance and peer review Not commissioned; internally peer reviewed.

Data availability statement All data relevant to the study are included in the article.

ORCID iDs
Vanitha Raguveer http://orcid.org/0000-0003-4621-5990

Nobhojit Roy http://orcid.org/0000-0003-2022-7416

REFERENCES

1 Meara JG, Leather AJM, Hagander L, *et al*. Global surgery 2030: evidence and solutions for achieving health, welfare, and economic development. *Lancet* 2015;386:569–624.
2 Fowler Z, Dutta R, Kilgallon JL, *et al*. Academic output in global surgery after the lancet Commission on global surgery: a Scoping review. *World J Surg* 2022;46:2317–25.
3 Kim EK, Dutta R, Roy N, *et al*. Rural surgery as global surgery before global surgery. *BMJ Glob Health* 2022;7:e008222.
4 WHO. WHO Guideline on Health Workforce Development, Attraction, Recruitment and Retention in Rural and Remote Areas. Geneva: World Health Organization,
5 ASHWINI. Association for health welfare in the Nilgiris. Available: http://ashwini.org/ [Accessed 3 Jul 2023].
6 Website. n.d. Available: https://ruralsensitisationprogram.org/about-rsp/
7 India. Rural hospital network. 2020. Available: https://ruralhospitalnetwork.org/
8 Meade ZS, Li HW, Allison H, *et al*. Demographics and medical school exposures to rural health influence future practice. *Surgery* 2022;172:1665–72.
9 Moesinger R, Hill B. Establishing a rural surgery training program: a large community hospital, expert Subspecialty faculty, specific goals and objectives in each Subspecialty, and an academic environment lay a foundation. *J Surg Educ* 2009;66:106–12.
10 Frohne N, Sarap M, Alseidi A, *et al*. Why interested Surgeons are not choosing rural surgery: what can we do now? *J Surg Res* 2021;263:258–64.