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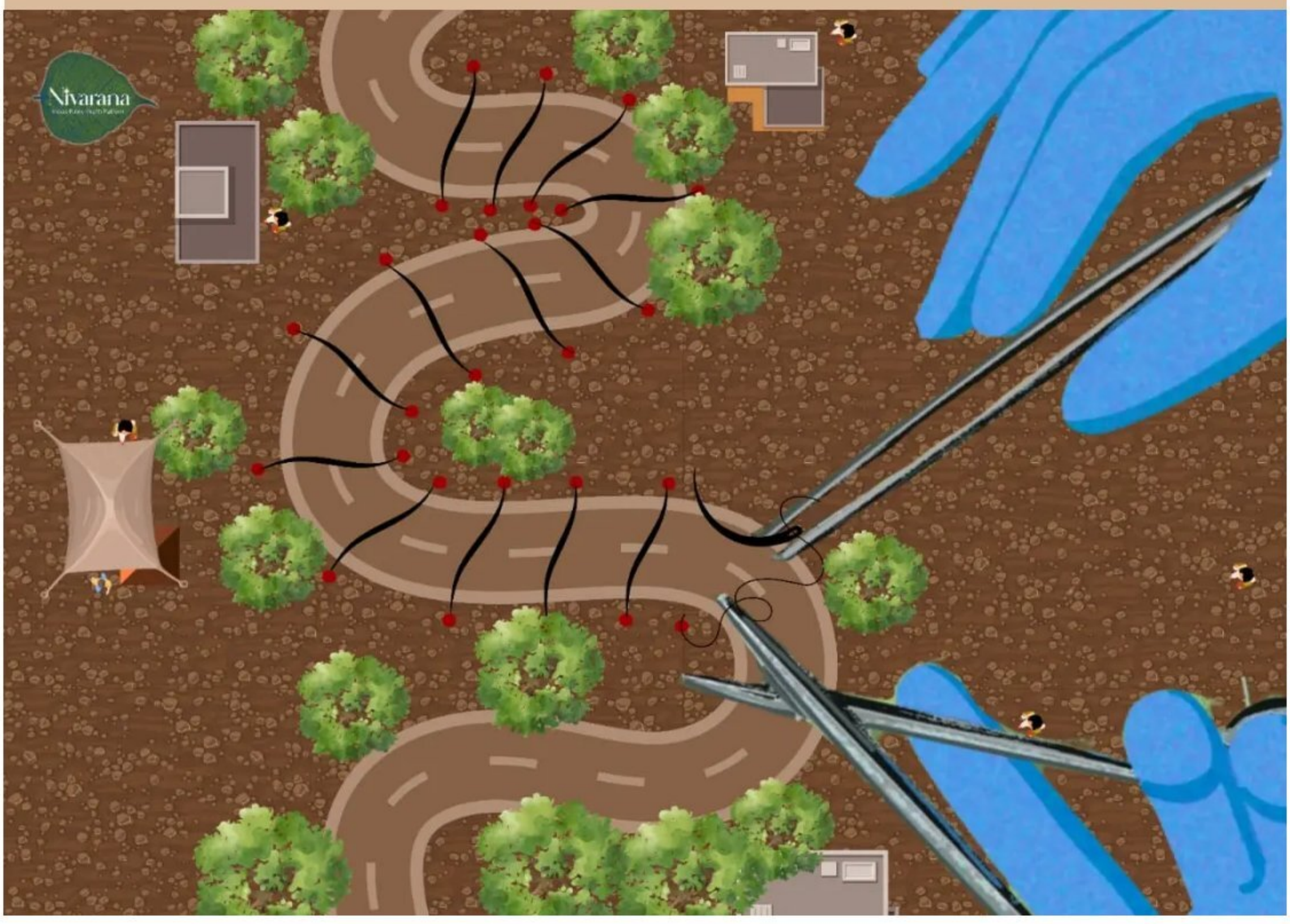
REALITY CHECK

Why India Needs Rural Surgeons: A Journey of Realization

Over 70% of India lives in rural areas, yet most surgical care is concentrated in cities. Through one patient's journey, this story shows why investing in rural surgeons is critical for equitable healthcare.



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Mr. Sundaran was a gentleman in his early 40s who was treated at a rural surgical care center for appendicitis. He had undergone an appendicectomy but had developed some serious complications soon after the operation.

Appendicectomy is the most common general surgical emergency, but it can sometimes have dreaded complications. During Sundaran's operation, another part of the intestine was injured while removing the appendix, which was unrecognised during the operation.

Soon after the operation, the intestinal contents started leaking into the abdominal cavity, which eventually resulted in a severe infection and sepsis. This was recognised early by the treating team, and rightly, a second operation was performed to repair the injured intestine.

Unfortunately, he did not recover even after the second operation, and his condition progressively deteriorated. He was then referred to our tertiary care center in CMC Vellore for ‘expert’ management.

I was in my general surgical residency at the time.

The patient could have been sent with just a referral letter, like in most cases. At our centre, we mostly never read the referral letters, preferring to work up the patient from the start instead. However, in Mr Sundaran’s case, the rural surgeon who had operated accompanied the patient all the way from the initial hospital and explained the series of events to us in great detail.

At that point, we failed to see the genuine care that the surgeon had

for the patient and instead thought he was only trying to cover up his errors.

We admitted Mr. Sundaran, performed another operation which consisted of bringing out his intestine through his abdomen, where the stools could be collected in a bag. This was done so that there was an adequate amount of time for the rest of the intestine to heal, along with the resolution of infection, a procedure known as making a stoma.

This Stoma, although one of the most feared aspects of abdominal operations, is commonly performed in emergency and planned operations involving extensive infection and cancers of the intestine. He was managed in the ICU for a few days and then in the ward for a couple of weeks, after which we discharged him in a stable condition.

As he left, we thought, “Why do these rural surgeons take on challenging cases and mess up?”

Little did we know or care that it was probably this surgeon’s first complication after an appendicectomy, who would have easily performed over a hundred appendicectomies in his center. What my colleagues and I believed at the time was that rural surgical care was subpar and not evidence-based based and hence these patients were being referred with complications to tertiary centres.

We disregarded the fact that we have had more and worse complications after a similar operation (injury to the intestine, urinary bladder, blood vessels, etc), only to be saved by the intense support system that we have.

This includes the availability of senior surgeons who could take over the operation and handle the complications, presence of other facilities like ICU (for stabilising and treating patients who become sick after a complication), advanced radiological and laboratory facilities,

and presence of specialties like gastroenterology, nephrology, and cardiology to handle the specific complications.

Despite these, we sometimes write off bad outcomes by saying the patient was very sick when he/she came and nothing could be done.

But now that I think about it, I realised that the natural conclusion of our prior bias was this question: Should all surgeries- major or minor, simple or complex be performed only in tertiary care hospitals with all the so-called facilities?

My opinion changed after visiting the same rural surgical center a year later, where Mr. Sundaran was treated. I was at the end of my postgraduation with an inflated ego of being trained in one of the prestigious institutions in the country. I reached late in the evening and had a hospital tour followed by a conversation with the rural surgeon over dinner.

He was one of the very few surgeons in India with a DNB rural surgery degree, which was offered only for a brief period of time and discontinued since there were no takers for it. He told me all about his training, which included postings in obstetrics and gynecology, orthopedics, urology, trauma, etc. He always wanted to be a rural surgeon and was extremely passionate about his work. I asked if there were any surgeries planned the next day, and he showed me the operations list. I had a look at the list, and it blew my mind!

Case 1	Caesarian section
Case 2	Inguinal hernia repair
Case 3	Circumcision
Case 4	Parotidectomy
Case 5	Fistula in ano

Case 6	Hysterectomy
Case 7	Cystogastrostomy
Case 8	Debridement and Skin grafting
Case 9	Cystoscopy and DJ stent insertion

In addition, there was an emergency pyloromyotomy for a newborn with congenital hypertrophic pyloric stenosis (Blockage of the stomach) and another emergency Caesarian section. If this were the operation list in a tertiary care center like where I was trained, it would look like this

Case no	Operation	Department
Case 1	Caesarian section	Obstetrics
Case 2	Inguinal hernia repair	General surgery
Case 3	Circumcision	Paediatric surgery
Case 4	Parotidectomy	Head and neck surgery
Case 5	Fistula in ano	Colorectal surgery
Case 6	Hysterectomy	Gynecology
Case 7	Cystogastrostomy	Hepatobiliary surgery
Case 8	Debridement and Skin grafting	Plastic surgery
Case 9	Cystoscopy and DJ stent insertion	Urology

And here was a rural surgeon, doing all these surgeries on his own. This

was a routine operations list in this hospital, with elective surgeries twice a week and emergency surgeries every day. He felt that the training he received was adequate to manage most surgical conditions in his center. The next day, I witnessed him not only doing all these operations with absolute finesse but also giving spinal and regional anesthesia for emergency surgeries.

The following day was the OPD run by the rural surgeon with three junior doctors. He saw and managed a large variety of cases like an elderly man with diabetes and hypertension for routine checkup, child with scabies infection, pregnant mother for an antenatal check up, child with a fracture of the arm which was re-fixed and plastered, elderly lady with respiratory infection, middle aged laborer with body pain and aches, patient who had undergone a hernia operation, elderly male with prostate issue for catheter change, child with diarrhea, and so on.

I also happened to see Mr. Sundaran, in perfect health, eager to get his stoma reversed, but had been denied or postponed at least thrice in our institute for all possible reasons. He was able to go back to work, but the stoma inhibited some of his activities, like working in the fields the whole day without access to the washroom to empty the stoma bag. Procuring the stoma bag itself was a barrier since it's expensive, not readily available, and needs to be ordered.

He was sad about the complication he faced during his first operation, but was very grateful to the hospital and the rural surgeon who took care of him throughout. This was the only hospital in the area where he lived, and all his and his family's health ailments were taken care of there.

Later, we did ward rounds, which included patients from the previous day's elective operations and other patients admitted with medical emergencies like exacerbation of COPD, stroke, pneumonia, and so on.

There were three patients in their high dependency unit, one of whom was a male with a snake bite on a ventilator. All were being managed well by this perfectly dedicated team headed by the rural surgeon. I was beyond impressed and inspired.

How early was I to judge him based on just a single complication? And to my previous thought, if all patients were to get their surgeries in tertiary care hospitals, a significant number of them would die waiting for their operation and develop several complications during the waiting period.

Why Do Rural Patients Travel To Distant Tertiary Hospitals?

Over 70% of India's population resides in rural areas. Shockingly, only 20% of the essential and emergency healthcare is being provided in these rural areas. This results in a significant delay in the diagnosis and management of various surgical conditions.

The Lancet Commission for Global Surgery estimated that the morbidity and mortality due to surgical illnesses are more than that of tuberculosis, HIV, and malaria put together. To a large extent, surgical care remains inaccessible, unavailable, or unaffordable in most parts of our country. The tertiary care centers are overburdened, overwhelming, and intimidating for many patients hailing from rural areas, not to mention the direct and indirect expenditures that are involved.

For instance, if a patient with cancer of his large intestine goes today to the tertiary care hospital where I trained, the minimum waiting period is 30-40 days for the surgery. The waiting period is even longer for benign and common surgical conditions like hernias, gall bladder stones, breast lumps, etc.

Patients are often surprised to know that these conditions, and a lot more, can be effectively managed at the secondary level. Due to the

improper decentralization of surgical care, the tertiary centers are overwhelmed and overbooked with surgical cases that do not ideally require the expertise or the support system of tertiary care.

As a consequence, those who require tertiary care management, like patients with advanced cancers and patients with life-threatening comorbidities like severe cardiac disease and liver and kidney failures, are forced to wait for their turn for surgeries. They are very likely to develop complications due to delays, resulting in increased morbidity and mortality.

Are the patients to blame for crowding the tertiary care hospitals? The fault lies in the system. The healthcare system in India is concentrated only around urban areas and state capitals, making all rural areas dependent on them.

The three-tier public health care system of primary healthcare (PHC), community centers and district hospitals (secondary), and medical college hospitals (tertiary care) does not facilitate the management of surgical illnesses. The patients often have to jump the order and find themselves waiting in medical colleges even for the simplest operations since they are unavailable in their local government/ taluk hospitals.

I have personally witnessed patients being told that they needed to travel to a medical college 5 hours away to get a 2x1 cm fatty tissue (lipoma) on the forearm removed due to the lack of an anesthesiologist. Few not-for-profit organisations that are providing surgical care in the rural areas are troubled with funding and resources with an impact that can never be that of an efficient public health system, if it ever comes to existence.

Why Aren't There Enough Surgeons In Rural Areas?

The adequacy (or rather the lack of adequacy) of general surgical

training needs to be emphasized here. General surgical training in India is for 3 years. This is significantly short compared to the training program in the US (6 years) or UK (5 years).

Most students get into the program after having spent at least a year or two preparing for the postgraduate entrance test after the internship. The only surgical experience they would have had is a six-week posting in general surgery during their internship. When they join in for postgraduate training, they spend about two-thirds of their time in core general surgical units and the rest of the time in super-specialty units like neurosurgery, cardiothoracic surgery, urology, pediatric surgery, plastic surgery, and anesthesia.

Most states have made rural service obligation compulsory after postgraduation. This can range between two to three years. The duration and the quality of training provided during the post-graduate course is grossly insufficient to make these budding surgeons competent or confident to practice in resource-limited rural hospital settings, often without mentorship or backup from a senior surgeon. The norm is, therefore, to either pay off the rural bond, skip it, or do a private practice during that period. This resonates with the fact that India has one of the highest rates of absenteeism among rural healthcare workers.

The lack of infrastructure is another major setback. Surgical illnesses require a well-maintained, sterile operating room with proper equipment. Any breach in this directly reflects in the post-operative complications like infections, bleeding, recurrence of the condition, etc. Often, surgeons are posted in rural hospitals that do not even have an operating room.

A rural surgeon is expected to manage not just the routine general surgical conditions but also the other emergencies like fractures, caesarian sections and removal of uterus, kidney stones and prostate

disorders, pediatric emergencies like foreign body obstruction in the throat and food pipe, etc. The general surgical training program does not provide any experience in managing the above conditions as there are no rotations in orthopedics, obstetrics, and gynecology or training in endoscopy.

Hence, young surgeons find themselves grossly inadequate and incompetent to handle the surgical spectrum of a rural area. The easy way out is to either prepare for a super-specialty course and get into the rat-race or to join the corporate or teaching hospitals in urban areas just to become the glorified assistants of the senior surgeons.

The need for enhanced surgical care in rural areas in India is synonymous with the need for rural surgeons. There cannot be rural surgery without rural surgeons. How, then, can we make rural surgery a career option? The answer is through creating training courses dedicated to rural surgery. This need was recognized as early as 1992 when the Association of Rural Surgeons of India (ARSI) was instituted but was constantly turned down until 2007 when DNB rural surgery was recognized as a specialty.

Indira Gandhi National Open University, New Delhi, was the first to design a multidisciplinary course in Rural Surgery in collaboration with ARSI. This course focussed on imparting training in essential and emergency basic and advanced surgical skills such as wound management, performing operations for thyroid, breast and abdominal diseases, amputations, management of trauma and fractures, exposure in gynaecological surgeries like operation of uterus and ovaries, along with anesthesia and critical care. Unfortunately, this course was stopped in 2020, and currently, there are no seats for DNB in rural surgery anywhere in India.

The Medical Council of India and the National Board of Medical Examinations authority must realize that all efforts to push surgeons

into rural areas will go in vain if they are primarily not motivated to do so.

Instead, measures should be taken to include rural surgery as part of general surgical training where postgraduates rotate through district and community hospitals and have adequate exposure to the work and the need for rural surgical care. Every surgical trainee should be given a choice to pursue a career in rural surgery. This must be ensured not by force but by genuinely getting the trainees motivated to take up rural surgery.

After my own experience with two rural surgeons, I have chosen to be one today, and I am glad to have done so.

Royson Dsouza

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