



The Growing Problem of Radiologist Shortage in Sri Lanka

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In modern medicine, the role of radiologists is pivotal in unraveling the mysteries hidden within the human body. Armed with advanced imaging technologies, medical experts can diagnose diseases, assess treatment efficacy, and offer life-saving interventions. However, as the sun rises on the picturesque island of Sri Lanka, a pressing concern is illuminated that threatens the fabric of Sri Lanka's healthcare system: the alarming shortage of radiologists.

Sri Lanka is a lower-middle-income country with a population of 22.16 million [1]. Under the Sri Lankan government, the hospital bed capacity is approximately 78000. Currently, a total of 148 consultant radiologists are under the Ministry of Health, and approximately 25 work in the private sector and universities. Additionally, we have 44 post-medical doctor (MD) trainees and 100 pre-MD trainees who will become fully qualified consultants within a few years. Radiology subspecialties are crucial in providing specific care to patients. Moreover, efforts are underway to train subspecialty radiologists. Currently, seven pediatric radiologists, eight neuroradiologists, and eight interventional radiologists are board-certified and are either undergoing overseas training or awaiting overseas training. However, the aforementioned services are currently available only in provincial-level hospitals.

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The field of cardiothoracic radiology is rapidly developing in Sri Lanka, with services currently available at five training centers. For instance, the National Hospital of Sri Lanka (NHSL) successfully performed 1000 cardiac computed tomography (CT) scans within a short period of one year. Despite this progress, the waiting period for cardiac CT scans in the NHSL is still approximately five months.

According to data, Sri Lanka has 0.78 radiologists per 100000 population [2], Europe has 13 radiologists, and the U.K. has 8.5 per 100000 population [3]. This significant disparity has a massive impact on healthcare, causing delays in diagnosis and treatment, because medical imaging plays a fundamental role in hospital-based patient care. Several reasons account for the growing shortage of radiologists in Sri Lanka, including the high cost of training, radiologists choosing to stay abroad after foreign training, and an increase in demand owing to an aging population and non-communicable diseases (NCDs).

Currently, the Post Graduate Institute of Medicine (PGIM) at the University of Colombo is the only institute that conducts MD Radiology programs. The program, first introduced in 1981, has been revised several times to meet the evolving needs of the country and the advancements in technological diagnosis and image-guided treatment modalities. With eight training centers across Sri Lanka, approximately 30 radiology trainees are selected annually through a selection exam conducted by the PGIM. However, a lack of resources for training radiologists has become a major challenge. The inadequacy of medical imaging equipment, particularly magnetic resonance imaging (MRI) machines, and the aging of existing equipment have been identified as significant factors affecting the training of radiology trainees.

Furthermore, the country's worst economic crisis in the past 73 years, officially declared in 2021, has resulted in a high inflation rate. The economic situation in Sri Lanka has

led young radiologists who went abroad to train and not return to Sri Lanka, exacerbating the shortage.

With an increasing proportion of older citizens in the population, NCDs have become a major public health challenge in Sri Lanka. This has significantly increased the demand for medical imaging services, and consequently, the need for more radiologists.

One of the most significant consequences of the shortage of radiologists is the potential delay in diagnosis and treatment. A scarcity of skilled specialists results in prolonged waiting times for scan interpretation, potentially leading to delayed diagnosis and treatment plans. This delay can exacerbate the patient's condition, reduce the chances of successful outcomes, and hinder recovery. Currently, patients must be on a month-long waiting list to undergo a CT scan and ultrasound, and the situation is even worse in the case of MRI. The waiting time for cardiac CTs in NHSL is still approximately 5 months.

The availability of CT, MRI, mammography, and radiation therapy units was reported in 2013, indicating the availability of 1.7 CT scanners, 0.4 MRI machines, and 0.6 radiation therapy units per 1 million people. Additionally, 2.8 mammography machines were reported per 1 million females aged 50–69. In comparison, Singapore has 8.9 CT scanners, 7.8 MRI machines, 3.5 radiation therapy units, and 176.7 mammography machines per 1 million females aged 50–69 years [4].

Moreover, the shortage of radiologists can affect the overall quality of healthcare services. Significant delays have been experienced in both diagnostic and therapeutic image-guided medical procedures. "Health at a Glance; Asia/Pacific 2016: Measuring progress towards universal health coverage," published by the Organization for Economic Co-operation and Development and World Health Organization [4], provides valuable insights into the state of healthcare in the region. This report highlights the importance of tracking progress toward achieving universal health coverage and offers recommendations for improving health systems. For policymakers and stakeholders to consider the findings of the report is crucial to address the gaps and challenges in healthcare delivery. By focusing on data- and evidence-based strategies, we can ensure that everyone in the Asia-Pacific region has access to affordable, high-quality healthcare.

To overcome these problems, the Sri Lankan College of Radiologists identified several areas that needed to be addressed and developed. One long-term solution is to

expand radiology training positions. The government of Sri Lanka, in collaboration with consultants and colleges, plans to establish several post-graduate institutes of medicine attached to other universities in Sri Lanka to produce more radiologists. However, the current financial crisis poses a challenge to providing sustainable solutions for the financial aspects of training and expanding resources.

To attract and retain radiology trainees, the Sri Lanka College of Radiologists organizes annual college sessions with contributions from international radiologists, offering sessions aimed at increasing awareness of various radiological aspects. During these congresses, radiology trainees and young radiologists are invited to present original research findings, and the best research topic is awarded. Monthly online Continuing Medical Education programs are also organized by the college with contributions from international speakers.

Additionally, the introduction of a 'cluster system' is underway, aiming to equip one hospital from each province with modern radiological equipment, sufficient radiologists, and radiographers. Peripheral hospitals would then send referrals to these provincial hospitals, providing reasonable services to patients in every province and compensating for the radiologist shortage.

Finally, teleradiology in rural areas could be an effective solution. However, the implementation of teleradiology in peripheral hospitals requires the development of Picture Archiving and Communication System (PACS).

The growing shortage of radiologists in Sri Lanka requires immediate attention. As we aspire to be a healthier and more prosperous nation, prioritizing the development of our healthcare infrastructure is imperative. By nurturing and supporting radiology professionals, we can strengthen our healthcare system, ensure timely diagnoses, efficient treatments, and ultimately save lives. The path forward lies in unity and collaboration, where the government, the Sri Lankan College of Radiologists, and the Sri Lankan people stand shoulder-to-shoulder.

CONCLUSION

The shortage of radiologists in Sri Lanka poses a critical challenge to the healthcare system, affecting timely diagnosis and treatment. To address this issue expanding training positions, investing in modern equipment, and providing incentives to talented radiology professionals is crucial. The government, in collaboration with the Sri

Lankan College of Radiologists, must work diligently to address the growing shortage of radiologists. Only by taking proactive measures and investing in radiology can Sri Lanka meet the increasing demand for medical imaging services and ensure better healthcare outcomes for the population of the country.

Conflicts of Interest

The author has no potential conflicts of interest to disclose.

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