The Journal of Global Radiology
ENSURING MEDICAL IMAGING ACCESS FOR ALL

LETTER TO THE EDITOR

Letter to the Editor Regarding Evidence of Overuse of Medical Imaging in Low- and Middle-Income Countries

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Editor's Note

In September 2024, the *Journal of Global Radiology* published an article by Dr. Elizabeth Protheroe, "Overuse of Medical Imaging in Low-Middle Income Countries: A Scoping Review", which addressed the very crucial topic of potentially inappropriate use of medical imaging. Dr. Protheroe conducted a scoping review of existing literature on the topic of overuse of medical imaging in low- and middle-income countries. It is a thorough review accompanied by a detailed introduction and discussion.

The issue of overuse of medical imaging with subsequent potential for overdiagnosis is well established and reviewed for high-income countries. In academic and community healthcare settings in the United States, we routinely witness inappropriate or excessive use of many medical tests, including imaging. It is a common problem, accounting for up to 34% of health care spending in the United States (1).

In low- and middle-income regions, despite limited access to diagnostic imaging, Protheroe has shown instances of overuse in certain settings. It is important to emphasize the need for access while recognizing that overuse may also occur and that the consequences of overuse and overdiagnosis may also be broader, and include significant financial burden. As most patients have no health insurance, many must pay for expensive imaging tests out of pocket.

Understanding where overuse is occurring and what modalities or systems are being overutilized will help develop local and regional policies to minimize overuse. Protheroe found that while 58% of the studies included in the review used guidelines from the American College of Radiology or International Societies as a tool to determine overuse, locally developed guidelines were found in only 5% of the studies. This is important, as there is great variability in available resources, disease prevalence, and cultural norms in different regions, suggesting the need for evidence-based, locally developed guidelines.

Above all, we must first ensure access to badly needed medical imaging in low- and middle-income regions before attempting to address overuse.

Dr. Bibb Allen, President of the International Society of Radiology, has provided a thoughtful response to Dr. Protheroe.

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Letter to the Editor

As President of the International Society of Radiology (ISR), I read with interest Protheroe's recent article, "Overuse of Medical Imaging in Low-Middle Income Countries: A Scoping Review" (1). While the global medical imaging community supports localized appropriateness guidelines to ensure safe and effective imaging worldwide, I am concerned that the article's conclusions about imaging overuse in resource-limited settings may misrepresent the challenges in low- and middle-income countries (LMICs), where limited access to imaging exacerbates health disparities compared to high-income countries (HICs) (2).

Data from the International Atomic Energy Agency (IAEA) show that non-communicable diseases (NCDs)—such as cancer, cardiovascular disease, trauma, and stroke—account for 7 out of 10 deaths in patients under 70 years of age in LMICs, with one researcher noting, "NCD is no longer an emerging problem in developing countries; it's assuming an alarming dimension and taking on the proportion of an epidemic" (3). While addressing societal risk factors like tobacco use, unhealthy diets, and physical inactivity is important, access to medical imaging is equally critical for early diagnosis and effective treatment of NCDs. Yet, per capita availability of medical imaging equipment, including ultrasound, computed tomography, mammography, nuclear medicine, and magnetic resonance imaging, is ten times lower in LMICs than in HICs (4).

Protheroe's article also questioned whether allocating more financial resources to medical imaging in LMICs is appropriate given concerns about its overuse. However, a microsimulation model of 11 cancers conducted by the Lancet Oncology Commission on Medical Imaging and Nuclear Medicine revealed that improving access to imaging alone could avert 3.2% of global cancer deaths (2.5 million lives). Paired with enhanced treatment and care, scaling up medical imaging could prevent 9.6 million cancer deaths and save 232.3 million life-years. Economically, this would yield a net benefit of $2.66 trillion USD, with a $12.43 return for every $1 invested (2).

The World Health Organization (WHO) defines Universal Health Coverage (UHC) as ensuring that "all people have access to the full range of quality health services they need, when and where they need them," supported by "strong, efficient, and equitable health systems rooted in the communities they serve" (5). As a Non-State Actor in official relations with the WHO, the ISR strongly supports efforts to improve global access to medical imaging and is committed to ensuring imaging is safe, effective, and appropriately used in LMICs (6,7).

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