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# RAD-AID International and Global Health Radiology

RAD-AID is a non-governmental organisation with a mission to promote radiology in global health with emphasis on sustainability through education.



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According to the World Health Organization (WHO), approximately 3-4 billion people are at risk for widespread loss and death that could be treated or avoided if radiology was available. Additionally, 6.3 million children under five died in 2013, succumbing to preventable or curable pneumonia, malaria, injuries, non-communicable diseases and congenital abnormalities (World Health Organization 2015). Most medical decisions and public health programmes in high-income countries (as defined by the World Bank) are now influenced by medical imaging and radiology tests. The lag and absolute lack of imaging in lower income countries leaves most of the world behind. Radiology is a focal point for addressing health disparities.

RAD-AID International began in 2008 to answer the need for more radiology and imaging technology in resource-limited regions and communities of the world.

RAD-AID is a nongovernmental organisation with a mission to promote radiology in global health with emphasis on sustainability through education.

RAD-AID's mission is to increase and improve radiology resources in low-income countries and areas of access disparity around the world. Radiology is a part of nearly every segment of healthcare, including paediatrics, obstetrics, medicine and surgery; this highlights the absence of radiology as critical when considering global health disparities.

From its beginnings as a small group of interested individuals at Johns Hopkins University in Maryland, RAD-AID has grown to include more than 5700 volunteers from 100 countries, 45,000 web visitors per year, 53 university-based chapter organisations, onsite programmes in over 20 countries and an annual conference on global health radiology. The composition of RAD-AID's volunteer pool is 50% physician (including trainees), 35% technologists (radiographers and sonographers), and the remaining 15% include nurses, physicists, business professionals and public health specialists.

RAD-AID is a nongovernmental, nonprofit organisation in official relations with the World Health Organization (WHO). The aims of cooperation with

nongovernmental organisations (NGOs) "in official relations" (ie officially affiliated) with WHO are to advocate integrative global health policy, technical standards and consistency in health services coverage and delivery; to ensure work towards coordinated technical and resource inputs to countries; to mobilise specific constituencies to ensure global resources for health services delivery; to maintain and develop strategic relationships with technical and research partners; and to foster relationships with relevant advocacy and civil society groups (WHO 2016). Radiology can and should play important roles in solutions and plans to address the Sustainable Development Goals (SDGs) set by the United Nations. Beyond the obvious contributions to SDG #3 "Ensure healthy lives and promote well-being for all at all ages," there are opportunities, nearly too numerous to count, across the remaining sixteen Goals. Nowhere is there greater opportunity for the traditionally resource-rich discipline of radiology than in SDG #17 "Strengthen the means of implementation and revitalise the global partnership for sustainable development." As the UN writes: "Achieving the ambitious targets of the 2030 Agenda requires a revitalised and enhanced global partnership that brings together governments, civil society, the private sector, the United Nations system and other actors and mobilises all available resources. Enhancing support to developing countries, in particular the least developed countries and the small island developing States, is fundamental to equitable progress for all" (Sustainable Development Knowledge Platform).

According to Dr. Mollura, Founder and CEO of RAD-AID International: "Radiology is an important contributor to the achievement of the UN SDGs, including:

- (i) good health and wellbeing
- (ii) quality education
- (iii) decent work and economic growth
- (iv) industry innovation and infrastructure and
- (v) partnerships for the goals

because radiology is an essential technology and service for healthcare, reinforces medical workforce education, contributes strongly to economic growth and investment, underpins vital health care infrastructure and information services, and stirs cross-disciplinary

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RAD-AID in Africa



RAD-AID in Asia



RAD-AID in Haiti



RAD-AID in Latin America

partnerships, respectively” (Sustainable Development Goals 2016).

Important recognition of RAD-AID’s work includes the 2013 Community Service Award from the American Medical Association and the 2015 Global Humanitarian Award from the American College of Radiology.

### What is Radiology-Readiness?

A cornerstone of RAD-AID’s strategy is the Radiology-Readiness tool, which RAD-AID developed and trademarked in 2009, endorsed by the WHO in 2011. Radiology-Readiness is a systematic data collection tool for assessing how advanced healthcare imaging technology can be planned and implemented to best match the medical needs and infrastructure/personnel resources of a community. This approach of advanced assessment leads to effective planning and implementation so that RAD-AID programmes have long-term sustainability and measurable outcomes.

“ RAD-AID IS A NONGOVERNMENTAL ORGANISATION WITH A MISSION TO PROMOTE RADIOLOGY IN GLOBAL HEALTH WITH EMPHASIS ON SUSTAINABILITY THROUGH EDUCATION ”

Radiology-Readiness collects information on all facets of radiology as well as the healthcare environment in which radiology will be utilised, to assure aligned needs and opportunities for improvement. Does it make sense to donate a CT scanner when the community does not have the appropriate electrical power grid? Does it make sense to screen for paediatric pneumonias with x-ray radiography when there are no antibiotics available to treat? Is it effective to implement mammography for breast cancer



screening when there are neither surgeons to biopsy nor oncologists to treat a diagnosed cancer? Radiology-Readiness analyses these and numerous other factors involved in or related to imaging to assure resources are not wasted and the radiology strategies best fit within resource constraints and clinical context of a hospital or community.

If a community needs versatile low-cost technology with many prenatal patients, an ultrasound solution may be recommended. If a community lacks women's health engagement with large marginalised slum populations, a mobile health truck may be recommended. If extensive hardware is present, but the training is insufficient, an educational strategy is implemented. If ancillary resources are needed to make the available radiology more effective, RAD-AID works to assure those resources are available to include treatment referral networks, medications and lab tests.

RAD-AID programmes then implement solutions that are multidisciplinary, including economic development (business planning for facilities using radiology equipment and personnel), clinical innovation, technology development, educational training of health workers and public health strategies (deploying radiology to address worldwide health issues).

### Perspective of RAD-AID Members

What drives the volunteers themselves? Dr. Munir Ghesani, assistant professor of radiology at the NYU School of Medicine explains: "Even though I had more than 10 years of global health experience before joining RAD-AID, I have benefited considerably by adopting its strategies, with proven track record, and by making several productive connections in this expansive



RAD-AID Radiation Therapy



RAD-AID India

network.” Dr. Ghesani has been passionate about global health work in Tanzania for many years and now serves as the director of the RAD-AID Tanzania programme. Through partnership with local hospitals and providers, this project is helping to train staff and implement new services in Arusha, Tanzania, with the vision of empowering local providers and building up lacking infrastructure. Dr. Ghesani encourages those interested in global health to get involved: “Whether you are just embarking on a global radiology journey or you are an established veteran of the field, RAD-AID has so much to offer you!”

According to RAD-AID Founder and CEO, Dr. Daniel Mollura: “RAD-AID provides basic structure and resources for volunteers to express their vision and desire to help others, and the projects have flourished.” In creating the organisation in 2008, Dr. Mollura wanted to leverage his background as a Goldman Sachs Financial Analyst and prior success in founding start-up companies to improve the global health radiology landscape. This has led to a necessary focus on sustainability and problem-solving within the severely resource-limited settings often seen in the developing world. As he describes it: “RAD-AID’s work is not just about helping other countries and the poor, but RAD-AID also aims to cultivate a new generation of health leaders who can think outside the box in charitable and innovative ways.”

These opinions seem to resonate with many in the greater radiology community. “Volunteering with RAD-AID is a two-way street,” affirms Bart Pierce, director of the RAD-AID Ethiopia project. As a magnetic resonance (MR) technologist and MR safety officer, Mr. Pierce has a passion for MR education that has led him professionally to an adjunct faculty position teaching MRI physics, as well as presenting seminars at the local, state and national level. In extending that same passion abroad, he has directed several projects, including the implementation and training for the first MRI machine at Black Lion Hospital in Addis Ababa, Ethiopia. “It has allowed me to give back, by sharing my skills, to improve the level of patient care around the world. In addition, becoming involved with those of differing cultures and beliefs has changed how I view the world.” In this way, the RAD-AID partnership in Ethiopia has embraced a two-way exchange of ideas and professional development for

radiology residents, physicians, technologists, nurses and more.

According to Dr. Berndt Schmit, RAD-AID Manager of Equipment Implementation: “Radiology is a gateway specialty for many health information technologies in the developing world. Hospitals often first adopt digital imaging such as computed radiography because they can realise the immediate benefits of improved clinical capability as well as the cost savings on consumables. Later, hospitals adopt other digital platforms such as electronic medical records (EMR) and health information systems (HIS). Part of RAD-AID’s international efforts to advance radiology is donating and implementing Picture Archiving and Communications Systems (PACS) with the related IT training and infrastructure. The crucial clinical benefit of PACS is the ready availability of prior imaging studies for comparison, which enables the monitoring of disease and the earlier detection of disease. By deploying PACS, RAD-AID is helping to usher in the digital global health era for low and middle income countries.”

Finally, the truly global need for the kind of work being done by RAD-AID projects has led many volunteers to create something new when necessary. As a diagnostic radiology resident at Temple University Hospital with a strong background in public health, Dr. Farouk Dako had already begun to serve the indigenous population of Nigeria. In volunteering as programme manager for RAD-AID Nigeria, he has been able to channel his experience of founding and working with in-country NGOs to get the new Nigeria project running. Dr. Dako has led two trips to Nigeria to assess the country’s radiology resources and infrastructure and begin building local partnerships. For him: “RAD-AID is an organisation that is creating a connection among radiologists around the world. It is allowing us to reignite that shared passion for humanitarian work that drove all us to pursue a career in medicine.”

### Get Involved

RAD-AID leads programmes with emphasis on all areas of subspecialty diagnostic and interventional radiology, including strong informatics and PACS integration around the world. If you are interested in learning more or volunteering, then please visit [rad-aid.org](http://rad-aid.org) ■



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