IR in Global Health: An Opportunity to Expand Efforts

An overview of an interventional radiology training program undertaken in Tanzania by the RAD-AID IR program to establish services in this low-resource setting.

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Although interventional radiology (IR) has become integral in everyday practice in the United States and other developed nations, the majority of people around the world are left without access to these innovative and often life-saving procedures. According to the World Health Organization, up to 4 billion people lack access to medical imaging,[1] and even more lack access to IR services. IR has grown exponentially in the United States over the past 50 years, raising the question of whether it could be possible to expand these practices to a broader population around the world. This would potentially give millions of people access to improved health care by offering new options for diagnosis and treatment for a wide range of diseases. Existing frameworks in global health outreach may prove useful in establishing goals and opportunities for IR in the global context.

RAD-AID INTERNATIONAL

RAD-AID International is a nonprofit organization with more than 9,000 volunteer members around the world and active outreach projects in radiology in nearly 30 countries. The goal of RAD-AID is to increase access to medical imaging around the world. Until recently, these efforts were primarily focused on diagnostic radiology. In 2017, an initial IR readiness assessment was performed in Tanzania, which demonstrated that there is not a single interventional radiologist in the country, but conditions are favorable for establishing IR. Based on the findings of this assessment, a strategy was developed for introducing IR to the Tanzanian health care system. This site will serve as the inaugural program for implementation of an IR training program in the low-resource setting. The strategy is focused on the following three key aspects: (1) practical training of fellows, residents, nurses, and technologists; (2) creation of a global IR curriculum for the resource-limited setting; and (3) establishment of sustainable procurement processes at partner institutions.

Tanzanian IR Training Project

The RAD-AID IR program focuses on fostering in-country educational opportunities and training programs. This strategy allows for trainees to learn in their own practice environment, ensuring application to local resources and disease patterns and increasing sustainability within institutions. Central to this approach is performing an assessment, creating an implementation plan, and organizing deployment teams. Considering the wide range of IR procedures available, multiple deployments to each site over the course of several years are required until local expertise is sufficient to provide teaching capacity for future trainees.

Ten teams are planned for deployment to Tanzania per year in 2-week blocks for the next 3 years, with the first trip in October 2018. Each deployment team includes an IR attending, nurse, and technologist. Trainees and medical students will accompany most teams. Similar to many IR training programs in the United States, the goal is to train three residents per class, and these trainees will form the first generation of interventional radiologists in Tanzania. The program aims to treat five to 10 patients per day or 50 to 100 per 2-week block, accounting for a total of 500 to 1,000 patients per year. Rather than achieving high case numbers, the goal is high-quality teaching with innovative approaches.

The first two trips in October and November 2018 are focused on training of four basic percutaneous IR procedures: core needle biopsy, cholecystostomy, nephrostomy, and drainage of abscesses and collections. In February 2019, this will be expanded to include bone biopsy, joint aspirations, and arthrograms. In each of the following months, additional procedures from the global IR curriculum will be added. The program will undergo continuous reassessment, allowing the program to evolve and focus on areas that demonstrate the highest impact in the country. The findings of these ongoing assessments will help guide future projects with expansion to other RAD-AID sites.

Training schedule. The practical training schedule is based on the global IR curriculum, which is a collaboration of the Society of Interventional Radiology residents, fellows, and students and RAD-AID. This provides a dynamic and open format focused on implementation of IR in the resource-limited setting. The curriculum is structured into core and advanced procedures that can be adapted according to local practices and available resources. For instance, if a given site has ultrasound and fluoroscopy but not CT, the curriculum can be tailored accordingly. The goal is to implement the curriculum at partner institutions according to institutional and national guidelines to achieve ways of accreditation and certification for local trainees.

Equipment procurement. Although procurement of required equipment by the local hospital system at the partner site provides the only long-term solution, some programs may initially also depend on outside contributions in the form of grants and donations. Once the IR service is established, the range of procedures offered and equipment used will adapt to allow sustainable local procurement. The global IR curriculum outlines a stepwise approach from percutaneous to endovascular to advanced procedures. This is reflected in the procurement process, which is initially focused on providing equipment needed for basic percutaneous procedures and aims to supply endovascular equipment by the second year of the program.

SUMMARY

The Tanzanian IR project is a collaboration of the RAD-AID IR program with academic centers in the United States and Europe. Methods established in Tanzania will be employed at additional RAD-AID sites, including Ghana, Kenya, Ethiopia, and Vietnam. RAD-AID aims to sustainably implement these practices and advances from our specialty to millions of people around the world who may tremendously benefit from the availability of the wide range of diagnostic and therapeutic options that IR can offer. We hope interventional radiologists, nurses, and technologists will consider the opportunity to support projects in resource-limited settings and create lasting global impact. ■

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RAD-AID IR

www.rad-aid.org/programs/interventional-radiology

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1. Mollura DJ, Shah N, Mazal J. White paper report of the 2013 RAD-AID Conference: improving radiology in resource-limited regions and developing countries. J Am Coll Radiol. 2014;11:913-919.

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