

PAY IT FORWARD: RAD-AID

If the future of health care is medical imaging, then about 3 to 4 billion people across the planet are being left in the past. According to estimates from the World Health Organization, about one-half to two-thirds of the Earth's population has not had access to basic medical imaging services like X-ray and ultrasound – treatments to which most Americans take their access for granted – since the 1970s. But delivering that standard of care throughout the developing world requires international business acumen and the kinds of resources that are still in demand in many places throughout the United States.

Enter Daniel Mollura, in whom resides the skill sets of a physician and a global businessman. Trained in economics and international commerce, Mollura leveraged a Cornell University education into a high-paying job with the multinational finance corporation Goldman Sachs – and then left it all behind to attend medical school. After graduating Johns Hopkins, Mollura became a radiologist, and in 2008, founded RAD-AID International, a nonprofit dedicated to sustainably advancing the cause of medical imaging in impoverished nations.

“It was the adventure of a lifetime, and it arrived in a place that I’m very pleased with,” Mollura said. “There’s so much cynicism in the world

around most things, but I found so much gratification in being a doctor. I was fortunate to find more gifted and skilled people who wanted to give back and do charitable work. Our profession is full of people who have poured into RAD-AID at a fast rate.”

The biggest challenge, Mollura said, is that radiology has never played “a central part, or even a peripheral part, in global health.” At the time he founded RAD-AID nearly a decade ago, fewer than even 10 percent of radiology institutions had any global health opportunities for their residents. Today, 53 universities in 23 countries have a RAD-AID chapter, and global health “is moving into a new period where it’s about high technology,” Mollura said.

“The common story I heard is that people interested in global health would turn away from radiology, believing that radiology had nothing to offer in the global health space,” he said. “It’s been a real vindication for that sense that radiology is not only relevant but can be a leader in global health.”

Traditional viewpoints of global health focused on “tents and stethoscopes” for crisis management and support for refugees of foreign wars and natural disasters, Mollura said. Despite sustaining global outreach to vulnerable populations, triaging health emergencies only addresses “a small part of world death and world suffering,” he said. Just like in America, most people in the developing world die from cancer and heart disease, he said; however, without the

required capacity build abroad, the bigger-picture practices of advanced imaging are never realized.

To address these circumstances, RAD-AID has created a data collection and analysis tool called Radiology-Readiness. It’s an advanced assessment that gauges the imaging infrastructure of a country before the agency intercedes with aid, either in the form of donated equipment or services.

“Does it make sense to run a mammography program if you have no way to do a biopsy and treat a patient for cancer?” Mollura said. “Does it make sense to donate a CT scanner if nobody’s got an electrical grid to run it? If you’re going to use digital archives and cloud systems, how are you going to accomplish that if you don’t even know if they have broadband access or computer workstations? It’s a very simple question but those things have to be answered first.”

The readiness assessment allows RAD-AID to tailor its approach based on the needs of the regions in which its aid is deployed. In areas of poor infrastructure, mobile staging of screening programs may be more effective than trying to build permanent health care centers. Mollura offers the example of Korle-Bu Teaching Hospital in Accra, Ghana. The facility was “very advanced,” supported by purchases from its ministry of health across a variety of modalities, but the RAD-AID assessment revealed that its plan did not include the framework for an IT infrastructure. In turn, RAD-



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AID donated a PACS system and got those various pieces of equipment connected, “and now it’s one of the most robust digital facilities in that country,” Mollura said.

In Guyana, where RAD-AID coordinated the donation of two Philips CT scanners and an ultrasound workstation, there was no radiology residency program, which meant no way for the country to train future radiologists. RAD-AID designed such a program in partnership with Hofstra University, thereby boosting the overall imaging capacity of Guyana in a more sustainable fashion.

“You’re not reinventing the wheel every time, but you’re not using the same cookie-cutter approach,” Mollura said. “You really want things to be tailored to the local circumstances. You balance it out by having an efficient process. We don’t hand off machinery

to people and hope for the best.”

Although RAD-AID draws the bulk of its resources from a wide range of funders, including a 6,000-member volunteer base that produced approximately 20,000 hours across its various programs, the organization leverages some larger partnerships as well. One such agreement with Bayer has allowed RAD-AID to deliver radiologic pharmaceuticals to places of the world that they might not otherwise reach. Mollura described these efforts as adding “leverage and sustainability” to its mission.

“Access to radiology and imaging solutions in developing regions around the world remains an extremely important area of unmet need, and one in which Bayer is strongly committed,” said Dennis Durmis, Head of Commercial Oper-

ations, Radiology Americas at Bayer in a statement. “If we can help close the gap to improve access to these technologies, we can advance public health and improve lives.”

A deeper partnership with companies like Lockheed Martin and Straightline Aviation have allowed RAD-AID to collaborate on a medical hybrid airship program that will deliver medical equipment directly to a given location. A project with IBM and Merge will help deliver PACS projects to a number of needy hospitals. Donations of heavy imaging equipment from donors like the Philips Foundation help to put equipment in places where it can do the most good.

“The great part about this is that it all stitches together,” Mollura said. “We can help hospitals go up the learning curve. **MD**