



Pediatric radiology outreach — World Federation of Pediatric Imaging commentary on opportunities and challenges

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Pediatric Radiology editors recently received two manuscripts related to outreach efforts. The first is by Dr. Shah and colleagues [1] from four institutions in the United States (Nationwide Children’s Hospital, Columbus, OH; Mayo Clinic, Rochester, MN; Cincinnati Children’s Hospital Medical Center, Cincinnati, OH; and Children’s Hospital, Philadelphia, PA). The authors discuss the opportunities, challenges and outcomes of global outreach performed by pediatric radiologists. The second manuscript describes the work of an experienced North American pediatric radiologist, Dr. George Taylor [2], during a 2-month stay in Rwanda at the University Hospital Center in Kigali. The two papers have much in common, relating the opportunities and challenges faced by well-intentioned pediatric radiologists from high-resource countries as they deal with the realities of work in low-resource settings.

As leaders from the World Federation of Pediatric Imaging (WFPI), we were asked to provide a broader perspective to these personal accounts, from the organization’s standpoint. The WFPI is a coalition of the international pediatric imaging societies with representation from North America (Society for Pediatric Radiology; SPR), Europe (European Society of Paediatric Radiology; ESPR), Latin America (Sociedad Latino Americana de Radiología Pediátrica; SLARP), Asia and Oceania (Asian and Oceanic Society for Paediatric

Radiology; AOSPR) and Africa (African Society of Paediatric Imaging; AfSPI). It provides a united platform for these organizations to address challenges in pediatric imaging, including training, delivery of services, outreach and educational efforts, global child imaging protection and collaboration with other global health organizations. The two papers cover the trials faced by pediatric radiologists who volunteer to work in outreach and education in low-resource environments. This is one of the ambitious goals of the WFPI: we believe that working in collaboration with other entities already doing this kind of work enables us to be more effective.

Outreach and education go hand-in-hand. As a global organization, the WFPI relies on social media to communicate with interested parties. Our Facebook (<http://facebook.com/WFPIeducation>) and Twitter (<https://twitter.com/WorldFederation>) feature a “Case of the Week” with timely and current content offered by international digital content ambassadors. The WFPI website (<https://www.wfpiweb.org>) has been a depository of information and is undergoing restructuring, particularly in the area of digital education, to become a portal to growing content.

The first manuscript covers a wide variety of topics, conveying the experience of the authors, delineating the practical professional, personal and ethical challenges involved in outreach work, providing useful advice and raising questions pediatric radiologists should ask themselves and the places they serve. A few comments about and takeaways from the two manuscripts follow.

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Opportunities to participate in projects abroad

We would like to add Imaging the World (imagingtheworld.org), a non-profit organization that integrates technology, training and community to bring medical expertise to remote and under-served areas. Initial projects concentrated on maternal and fetal health in Uganda, but there is expansion into

cardiac, breast and abdominal ultrasound in other regions of the world. In addition to the groups mentioned in the articles, it is worth noting additional professional radiology associations that support outreach. For example, the Radiological Society of North America (RSNA) offers the Visiting International Professor program; at the request of hosting countries it sends qualified, experienced radiologists to participate at national meetings and work with local institutions for a period of 2 weeks. The American College of Radiology (ACR) annually offers several 1-month Goldberg-Reeder travel grants for radiology residents to work on projects in low-resource countries.

Collaboration

It is critical to identify local support for outreach efforts. The dangers of a paternalistic approach cannot be overemphasized. It is fundamental to work with a collaborative, respectful attitude because the goal of sustainability in improving health care will fail without buy-in by local colleagues.

Teleradiology

While the WFPI recognizes that this type of service has advantages, including improved access to specialists and reduced traveling time/costs, again there is risk of paternalism, impeding growth and development as well as independence of the institutions served. Awareness of these factors led the WFPI to partner with several institutions via the Collegium Telemedicus platform, which was built to store and forward telemedicine use in low-resource and low-internet-bandwidth settings. As mentioned in Dr. Shah et al.'s [1] manuscript, the Collegium Telemedicus sends cases to WFPI readers for a second opinion and does not entail any transfer of legal responsibility from referrer to specialist. Successful partnerships have been established with Laos' Friends Children's Hospital in Luang Prabang, Mozambique's Hospital Central de Maputo and Doctors Without Borders, to mention a few.

On-site training

On-site training is costly and demands significant time investment. Clarifying in advance the scope and expectations of the outreach work is fundamental; RAD-AID's model of requiring a needs assessment questionnaire ensures better understanding of the desired assistance.

Provider training must reinforce standards and patient safety. Guidelines have been created by the WFPI and are available on its website; the WFPI seeks to "bolt-on" to existing initiatives — and in doing so ensure the inclusion of pediatric

content, rather than set up tailored projects from scratch. For example, the RAD-AID pediatrics initiative was created through dialogue between the leaders of both RAD-AID and WFPI. The settings where mission work is practiced vary significantly, ranging from a hospital with limited resources to a small remote clinic with no physicians but trained local nurses or technologists. The pediatric radiologist going on an outreach visit should have a focused goal and knowledge of limitations, with training in cultural competence and unconscious biases that could affect the work and relationships. The risk of a paternalistic approach is very high; no one knows better than those on the ground what is it that they need. The radiologist might find it difficult to adapt to this new reality of work without the technology that is taken for granted in daily practice. This challenge was well described by Dr. Taylor, who has lectured in many parts of the world but had never done clinical work for an extended period in a low-resource setting [2].

Basic principles of hygiene should be implemented, such as washing hands before each procedure, cleaning US transducers and possibly changing dirty linens, because these are part of an education in elementary public health principles. Both manuscripts illustrate the lack of proper hygiene; implementation of these measures is likely to have repercussions in other areas of the facilities.

Equipment

When on the ground, local equipment might be available for use. One of the major limitations is the lack of maintenance contracts for the imaging devices. Equipment might have been donated or purchased, but the lack of such contracts means that when a problem arises, there is no part replacement available. It is part of the educational process to insist that donated equipment not be older than 10 years and that every machine have a maintenance contract.

Education

One of the new WFPI initiatives is to create on-site expert medical workers in low-resource settings, like the model described in Ethiopia. There are not enough pediatric radiologists to provide care to the population worldwide. Most pediatric imaging, even in advanced societies, is performed by general radiologists. Therefore, the idea to improve their training in the specialty led to the creation of WFPI-funded 3-month-long scholarships in select areas. The first one will be in South Africa at the newly opened Nelson Mandela Children's Hospital in Johannesburg. A Bill Shiels Scholarship fund is being developed for additional 3 month fellowships at other centers internationally.

After reading the manuscripts, one might feel overwhelmed by the challenges ahead; however, all authors are unanimous in describing the profound feeling of having contributed even in a small way to improving the health of children around the world. As a global organization, the WFPI is aware of the immensity of the task and of the multiple issues that are part of its mission. With the collaboration of the large numbers of highly qualified pediatric radiologists that constitute its membership, plus association with other organizations, such as the World Health Organization and others mentioned in the text, we are on the way to further addressing the needs for safe, appropriate imaging of children. We thank the editors of *Pediatric Radiology* for the opportunity to comment on the submitted manuscripts

and congratulate all the authors on the contributions they bring to international outreach.

Compliance with ethical standards

Conflicts of interest None

References

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