Imaging for Saving Kids - the Inside Story about Patient Safety in Paediatric Radiology

68th World Health Assembly

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Summary Report

The World Health Assembly (WHA) is the supreme decision-making body of the World Health Organisation (WHO) and is held annually in Geneva. The Assembly is attended by delegations from the 194 WHO Member States, the NGOs in official relations with the WHO and representatives from other UN agencies. On 26 May 2015, a side event entitled "Imaging for Saving Kids – the Inside Story about Patient Safety in Pediatric Radiology" was held during the 68th WHA. This event was jointly organized by the Governments of Kenya, Malaysia, Spain, and Uganda together with the following nine NGOs in official relations with the WHO: Diagnostic Imaging, Healthcare IT and Radiation Therapy Trade Association (DITTA), International Commission on Non-Ionizing Radiation Protection (ICNIRP), International Commission on Radiological Protection (ICRP), International Organization for Medical Physics (IOMP), International Society of Radiology (ISR), International Society of Radiographers and Radiological Technologists (ISRRT), RAD-AID International, World Federation for Ultrasound in Medicine and Biology (WFUMB), and World Organization of National Colleges, Academies and Academic Associations of General Practitioners / Family Physicians (WONCA).

This event conducted at the United Nations Office at Geneva (UNOG) brought policymakers, health care providers, professional societies, equipment manufacturers, and patient's representatives together to jointly discuss measures that can be achieved to improve health and service delivery by maximizing the benefits and minimizing the risks when using medical imaging in children. The main topic addressed was the delicate balance between the pivotal role of medical imaging in the appropriate management of

many illnesses which afflict children and children's increased sensitivity to health risks associated with ionizing radiation.

Dr. Maria Neira, Director of the Department of Public Health, Environmental and Social Determinants of Health at the WHO and Dr. Edward Kelley, Director of Department of Service Delivery and Safety at the WHO co-chaired the event. They delivered the opening remarks, highlighting that this Side Event was a unique opportunity that all stakeholders come together and collaborate to make a difference in the safety and quality of children's healthcare, to harmonize efforts, policies, and regulations.

During the first session Dr. Donald Frush of the American College of Radiology (ACR) and the International Society of Radiology (ISR), focused on setting the scene. As a Steering Committee member and co-chair of the *Image Gently* education and communication campaign, he encouraged healthcare practitioners to educate and provide informational material to patients, both in person and through harnessing the power of social media. He also encouraged to instill a sense of engagement and accountability in healthcare providers by spreading amongst them a positive and resonating message, that of improving the imaging care of children, such as through catch words "when imaging kids, Image Gently".

The second session addressed the policy, strategy and actions to improve patient safety in paediatric imaging. The representatives from the Ministries of Health of Kenya, Malaysia, Spain and Uganda shared their intent in fostering partnerships amongst stakeholders and their respective countries, such as with equipment manufacturers, radiologists, and policymakers, while also strengthening policies to ensure the active implementation of the ten priority actions to improve radiation protection in medicine identified in the *Bonn Call For Action*[1]. These representatives were Dr. Paulyne Wairimu, Head of Medical Devices and Diagnostics, Pharmacy and Poisons Board from Kenya; Dr Noor Hisham Abdulah, Director General of Health, Ministry of Health of Malaysia, Dr Eliseo Vaño, Radiation Protection Advisor to the Ministry of Health of Spain, Chair of the Committee 3 on Radiation Protection in medicine from the International Commission on Radiological Protection (ICRP), and Chair of the Working Party on

[1] The Bonn Call for Action is the main outcome of an international conference on radiation protection in medicine held in Bonn, Germany, in December 2012, organized by the IAEA and cosponsored by WHO. The 10 priority action identified are: 1) enhancing implementation of justification of radiological procedures, 2) enhancing implementation of optimization of protection and safety, 3) strengthening manufacturers' contribution to radiation safety, 4) strengthening RP education and training of health professionals, 5) shaping and promoting a strategic research agenda for RP in medicine, 6) improving data collection on radiation exposures of patients and workers, 7) improving primary prevention of incidents and adverse events, 8) strengthening radiation safety culture in health care, 9) fostering an improved radiation benefit-risk-dialogue, and 10) strengthening the implementation of radiation safety requirements globally.

Medical Exposures of the Euratom Art 31 Expert Group; and Dr Rosemary Byanyima Kusaba[2], Advisor to the Ministry of Health, Uganda. It was noted that there is a need to strengthen collaboration between ministries of health and key stakeholders such as radiologists, radiographers, medical physicists, family doctors, patients/parents, manufacturers, scientific bodies and RP regulators. Regulatory bodies should cooperate and encourage sharing of resources. There is an issue of fragmentation in health care delivery that calls for an integrated and people-centred approach. In addition to regulatory control of radiation safety by national radiation safety authorities, it also has to be linked and integrated into patient safety policies and strategies, as well as linked to policies and regulations for medical devices and health technologies. Universal health coverage includes access to affordable health technology and quality and safe services. There is a need for policies focused on children- both underuse and overuse of radiation in pediatric imaging are issues, due to lack of awareness or misperceptions among patients, lack of understanding about justification/optimization and imaging options/alternatives. There is a large variation in the radiation doses used for the same procedures between hospitals and also between practitioners in the same facility. We should work on optimization and foster the establishment and use of diagnostic reference levels (DRLs) for children. Radiation safety standards exists e.g. new international basic safety standards (BSS) and new Euratom BSS, as well as guidance and recommendations from the ICRP and others. We can build on existing resources, encourage the adoption of standards of quality and safety that serve as benchmarks nationally/internationally. Capacity building, education and training are essential for health professionals, service providers, patients, families, and community. Policies have to be evidence-based so, there is a need to develop a strategic research agenda on RP in medical imaging. We should employ a collaborative approach, engaging all stakeholders, civil society, professional bodies, patients, families and the community.

Then, there was one session focused on patient and family engagement to improve safety in paediatric imaging. Mrs Margaret Murphy, Chair of the WHO network of Patients for Patient Safety (PFPS), took the floor in informing the audience that there exists a low level of understanding of radiation risks associated with imaging amongst patients, especially when it comes to the radiation risk for children. Encouragingly, however, patients are very interested in taking a more proactive stance within the consulting process with their healthcare providers, which would not only raise awareness, but would also engage them in contributing to the monitoring of their own cumulative levels of radiation.

[2] Due to a last minute issue Dr R.B. Kusaba could not attend the session and her presentation was delivered on her behalf by Dr. M. Kawooya, also from Uganda.

In the following session the end-users of radiation in pediatric imaging addressed the question “Where are we now and how can we do it better together?” The unique challenges that Latin America is facing were presented by Dr. Gloria Soto Giordani of the Inter-American College of Radiology/International Society of Radiology (CIR/ISR). These namely include the great diversity of practice across the Latin American countries, and the lack of information specific to pediatric imaging, itself exacerbated by the shortage of radiological professionals in the field (e.g. pediatric radiologists, medical physicists). Together, these result in a fragmented service. She concluded that the way forward would be through coordinated strategies involving all stakeholders and through increasing awareness to the need of a positive change in the culture of radiological protection, since it is the responsibility of all to provide children with safe imaging.

Dr. Guy Frija of the European Society of Radiology/International Society of Radiology (ESR/ISR) and Chair of *EuroSafe Imaging campaign and alliance* framed challenges of radiation protection in pediatric imaging into 3 main categories: justification, optimization, and quality of equipment. First, he highlighted that evidence-based imaging referral guidelines must be employed for the justification of procedures. He noted that currently, imaging referral guidelines exist in most European countries, but are not being employed: he suggests their implementation by way of regulations and awareness. The ESR is promoting the use of clinical decision support (CDS) systems for implementing imaging referral guidelines, to provide a platform at the point of care with evidence-based information and patient-tailored CDS tools relevant to imaging decisions. Second, diagnostic reference levels (DRLs) specifically targeted for the pediatric population are necessary in order to optimize procedures with the goal of reaching radiation “as low as reasonably achievable (ALARA)”. Finally, with continuous technological advances, he highlighted the importance of keeping up-to-date with imaging equipment, as similar image quality can be obtained while being exposed to considerably less radiation when using the latest technology.

Dr. Michael Kawooya of the African Society of Radiology/International Society of Radiology (ASR/ISR) reinforced the notions of education and awareness through the coordination of strategies amongst stakeholders and the translation of global recommendations into implementable policies. The topic of safe pediatric imaging is especially relevant in Africa where not only is its population largely composed of children, but it is also under resourced in human and infrastructural capacities. Most recently in

February 2015, ASR has successfully launched the *AFROSAFE* campaign – a multistakeholders campaign to improve safety and quality in medical uses of radiation in Africa, based on action points from *Bonn's Call For Action*.

Ms. Donna Newman of the International Society of Radiographers and Radiological Technologists (ISRRT) shared the radiographer's point of view on the collaborative responsibility in the safety of pediatric imaging, also through education and the justification and optimization of procedures, as the radiographer is the last person to interact with the patient prior to obtaining the procedure.

From the perspective of medical physicists, Dr. Madan Rehani of the International Organization for Medical Physics (IOMP) emphasized his profession's unique contribution as the experts of the technical aspects in radiation dose estimation and management strategies. Thus, they play pivotal role in discussions revolving the education of healthcare professionals and patients alike.

Dr. Frush concluded this session with a strong analogy: the delivery of a radiation dose is akin to that of a medication dose; over or under dosing is considered a medical error. He therefore emphasized the importance for all stakeholders – policymakers, healthcare providers, equipment manufacturers and patients – to form partnerships. After all, transcending this common goal of each and every party involved for safer medical imaging in children is the coordinated strategy of awareness and education that will permit justification and optimization of every radiological procedure to save both lives and resources.

Finally the co-chairs Dr. M. Neira and Dr. E. Kelley delivered the closing remarks. This Side Event identified issues of underuse and overuse of medical imaging in children. We should improve justification of procedures and optimization of diagnostic data, radiation protection and patient safety. and promote use of imaging referral guidelines. Radiation safety is linked to several relevant WHO activities/programmes that are all collaborating, as reflected in their participation in this side event. National programmes should consider collaboration between health authorities and experts/professionals, with the support from international societies. A take home message from this Side Event was "Perform medical radiation imaging according to standards".