

ESR EuroSafe Imaging - Experts & Partners

PiDRL achievements

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1. Introduction

The concept of Diagnostic Reference Levels (DRLs) has been introduced to indicate unusually high or low patient radiation doses from medical imaging examinations and procedures. In 1999 the European Commission (EC) issued Radiation Protection 109 (RP 109) publication on "Guidance on diagnostic reference levels DRLs for medical exposure" (1). This document highlights the importance of establishing DRLs for high-dose medical examinations, in particular computed tomography and interventional radiology procedures. The newly published 'Euratom BSS' (2) states that 'Member States shall ensure the establishment, regular review and use of diagnostic reference levels for radiodiagnostic examinations, having regard to the recommended European diagnostic reference levels where available, and when appropriate, for interventional radiology procedures, and the availability of guidance for this purpose'.

There is a need to establish DRLs for radiological examinations and procedures where DRLs are not available, consolidate available information and provide guidance on what actions are needed in establishing and using DRLs to further enhance radiation protection of children. The EC recognised this need and approved a project on the establishment of European DRLs for paediatric patients in December 2013.

2. The PiDRL Project

The 'European DRLs for Paediatric Imaging' project (abbreviation: PiDRL) is a new 27-month EC project aimed to a) develop a methodology for establishing and using DRLs for paediatric medical imaging and b) update and extend the European DRLs to cover as many as possible procedures. The PiDRL consortium is headed by the European Society of Radiology (ESR). Other participating organisations include the European Federation of Organisations for Medical Physics (EFOMP), the European Society of Paediatric Radiology (ESPR), the European Federation of Radiographer Societies (EFRS) and the Finnish Radiation and Nuclear Safety Authority (STUK) with Public Research Centre Henri Tudor (CRP-HT) as subcontractor.

Figure 1 shows the organisational structure of PiDRL. The project's work includes three major tasks:

1. Agree on a methodology for establishing and using DRLs for paediatric imaging and produce new European guidelines on paediatric DRLs (**Work Package 1**)
2. Update and extend the European DRLs as provided in RP 109 (1) to cover more procedures (**Work Package 2**)
3. Organise a European workshop to discuss the results of the first two tasks and the need for further action on DRLs and optimisation of radiation protection of paediatric patients (**Work Package 3**).

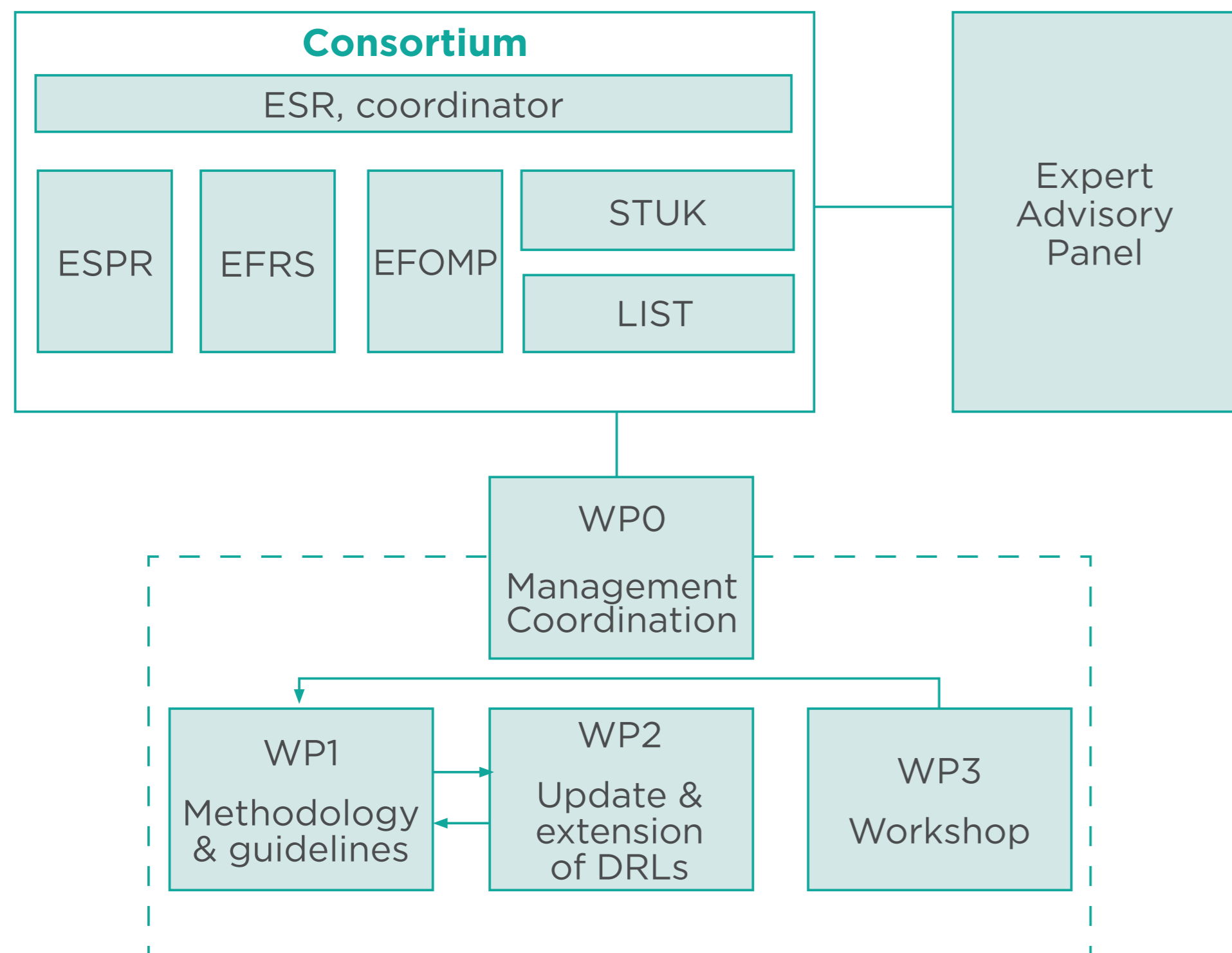


Fig. 1: Organisational structure of PiDRL

3. PiDRL achievements

A worldwide review of literature on patient doses and DRLs for children of different age groups, or other distributions, and for different examinations has been carried out with an emphasis on European literature. Questionnaires have been distributed to confirm and/or update the data on paediatric DRLs in the European countries as available from the EC project Dose Datamed 2 (DDM2) database (3) and to collect information to prepare sections of the guidelines. The first complete draft of the guidelines has already been submitted to the EC.

The review of DRLs has indicated that for interventional, fluoroscopy-guided cardiac procedures, no national DRLs exist but only a few local DRLs have been suggested, and for interventional non-cardiac procedures, no DRLs have been suggested at all. PiDRL efforts to establish multi-national DRLs for paediatric interventional procedures are in progress.

The PiDRL workshop will take place in Lisbon/Portugal on October 15-17, 2015 (Figure 2). The scientific programme will consist of oral presentations, poster presentations, round tables, review and keynote lectures and panel discussions. The call for abstract submission for oral and poster presentations on the topic "Patient Doses from Paediatric Diagnostic and Interventional Procedures - Establishment and Use of Paediatric DRLs" will close in April 2015. More information about PiDRL project and PiDRL workshop can be found at <http://www.eurosafeimaging.org/pidrl>.



Fig. 2: PiDRL workshop Lisbon/Portugal, October 2015

References

1. European Commission (EC), 1999. Guidance on Diagnostic Reference Levels (DRLs) for medical exposures, Radiation Protection 109.
2. Council of the European Union. (2013). Council Directive 2013/59/Euratom laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom. Official Journal L-13 of 17.01.2014.
3. European Commission (EC), 2014. Dose Datamed 2 (DDM2) Project Report Part 2: Diagnostic Reference Levels (DRLs) in Europe.