

The Evolution of Networking in radiation protection:

From health physics professionals expertise to all concerned stakeholder's involvement.

Christian Lefaure^a, Zanat Carr^b, John Croft^a, Pascal Crouail^c,
Renate Czarwinski^d, Pascal Deboodt^d, Augustin Janssens^e, Edward Lazo^f, Stefan Mundigl^c,
Shengli Niu^g, Maria R Perez^b.

a) Consultant, b) WHO c) CEPN, d) IAEA e) European Commission, f) NEA/OECD g) ILO

Before the 90's: mainly during 50's to 60's a first generation of networks

- Professional HP associations; Medical physicists associations
 - Follow up of scientific knowledge
 - Evolution of technologies
 - Promotion of the profession
- Sources Users associations (medical, industrial...)
 - Very little emphasize on HP
- No one focussing on ALARA and low dose risk management

Before the 90's

- Radiological risk management, was mainly:
 - Procedural top down approach
 - Relying on health physicists expertise
 - Time - distance - shielding

Evolution of the context during the 90's

- Development of standards (ICRP, IAEA, EC...)
 - The concept of ALARA and how to develop it
- Socio political evolutions
 - *“the involvement of stakeholders is seen as an important input to the optimisation process”* because it *“reinforces the safety culture and introduces the necessary flexibility in the management of the radiological risk that is needed to achieve more effective and sustainable decisions”*. ICRP 101
 - Fourth word *Time, distance, shielding, Stakeholders commitment*
- Technological evolutions
 - New communication means web, emails

New International networks set up by NEA, IAEA, EC during the 90's

International System on Occupational Exposure (ISOE) 1992

- A world radiation protection professionals community (NPPs and Reg. Bodies)
- Limited opportunities to meet and exchange
- ISOE include more than 90% all NPP's in the world
- Mix top-down (worldwide databases, software, etc) and bottom-up (workshops, *ad hoc* meetings, email forums, etc) approaches
- A success, remains a quite formalised and institutional network.
- Recent evolution to fit more with end users needs

- **A world wide sector-specific network; HP**

New International networks set up by NEA, IAEA, EC during the 90's

European ALARA Network (EAN) 1996

- Voluntary participation from individuals and institutions to improving occupational exposure in industry, research, ...medical, NORM
- Widen to patient - public exposures in 2005
- Annual workshops and recommendations with considerable impacts
- Exceptional opportunity for discussions to stakeholders who have no other place to do it
- No “institutional” stake; “free speeches” and listening; consensual recommendations reached
- **A regional multi-sectorial network (open to many StakeHolders) Bottom up.**

Dissemination and extension to new shapes and scopes:
**An international policy for supporting the development of
other world-regions ALARA networks**

- IAEA/ILO action within IAPORP to support other regional ALARA networks
- 2005 RECAN (European and Central Asian ALARA Network)
- 2007 ARAN (Asian ALARA Network)
- Both are financially helped by IAEA and organising workshops
- *IAEA Intention to favour Latin American, African (French and English) Middle East... networks...*
- *If countries representatives clearly express that need !!*

Dissemination and extension to new shapes and scopes:
The Emergence of new types of networks in radiation protection at the level of world regions or locally.

- Devoted to a specific topic
 - EUTERP education and training
 - ESOREX statistics
 - ERPAN regulatory bodies inspections

- Devoted to a specific domain
 - Asian Network of interventional cardiologists (for radiation protection)
 - NORM ALARA Network`

- Local Qualified experts networks mixing medical research , industry at the level French regions

Examples of the existing networks in 2008 according to their geographical and sectorial bases.

	Worldwide	World regions	National	Local
Intersectorial	<i>IRPA (1964)</i>	EAN (1996), RECAN (2005), ARAN (2007) ESOREX (1997) EUTERP (2006) Red internacional de radioproteccion (2002) ERPAN (2006)	<i>Health Physicists societies (50's 60's...)</i>	Local radiation protection stakeholders from all sectors (France 21st century; others?)
Sectorial	<i>IOMP (1963)</i> ISOE (1991) REMPAN (1987)	Asian Network of interventional cardiologists in radiation protection (2007) NORM ALARA network in Europe (2007)	<i>Medical Physicists societies (50's 60's...)</i>	Local radiation protection stakeholders from one sector (France 21st century; others?)

In italics the associations and networks created from the fifties to the eighties; i.e. the first generation.

In normal the networks created during the nineties and the first decade of the 21st century;

i.e. the second generation.

The two generations of networks

- Number of networks
 - first generation small, direct multiple of the number of countries; soon relatively stable,
 - second generation still increasing at an exponential rate, and will continue
- no “best shape” for a network:
 - focused on one sector of activity only, allowing the emergence of scale effects, or covering many sectors allowing mutual feeding? It depends...
 - focused on one risk? Or several risks? It depends...

Lessons learned from the second generation of networks

- They are quite successful, and still growing (number of countries participating in a network, number of topics addressed, number of recommendations implemented, etc)
- What are the reasons of that success?

Lessons learned from the second generation of networks

- Personal links and Communication
 - Opportunities for communication between individuals, not institutions
 - Many “bypasses”,
- Enthusiasm
 - A real keyword
 - To put forward for discussion the real problems
 - To try to find together solutions
 - Through actions favouring a bottom-up approach

Lessons learned from the second generation of networks

■ Flexibility

- Much more than any other type of organisation between institutions
- No permission has to be requested
- No formal rules have to be followed.
- Initiatives are easily taken

■ Collective efficiency

- Differences lead to solutions more generic
- Solutions with more chance of sustainability

Lessons learned from the second generation of networks

- Constraints and limits of the networks
 - Difficulties for involving stakeholders due to their availability and for financial reasons
 - To find resources and time
 - To find an optimal size for the network, allowing direct contacts through meetings and workshops

Conclusions

- During the nineties and later on, as an answer to the evolution of socio political demand, and thanks to the technological communication means, a second generation of radiation protection networks has grown up.
- They are set up on different geographical bases from worldwide networks to very local ones; they sometimes cover a specific topic (training for example) or a specific domain (cardiology for example), they are more often multi-topic and multi-sectorial; they always rely on communication and exchanges through direct contacts, most often complemented by emails, web sites and forum...

Conclusions

- Lot of new networks with new shapes will appear in the near future
- It should not be reasonable to envisage a single network of networks covering everything. However,
- It would be sensible to avoid duplications
- Through the spontaneous establishment of adapted links between the networks and creating then several networks of networks at all levels both geographical, topical and sectorial.

Next presentations and general discussion

- The point of views of several types of stakeholders on the role of networks and their interest for the presenting stakeholder
- Short Presentation of some networks
- General discussion:
 - Other experiences?
 - What are the needs?
 - Where can resources come from?
 - What are the challenges?

Two meetings

- Today at 4 pm with African representatives here
- Next Saturday with Latin American representatives