



World Health Organization



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Radiation Protection Culture in Medicine

*Regional Workshop
11 April 2015
Buenos Aires, Argentina*



Global views and actions

Dr. Maria del Rosario Pérez

Department of Public Health, Environmental and Social Determinants of Health

Workshop on RP Culture in Medicine, Buenos Aires, 11 April 2015

The WHO's objective

“Attainment by all peoples
of the **highest possible
level of health**”



WHO Regional and country offices



PEOPLE

Last but not least, WHO is people. Over 8000 public health experts including doctors, epidemiologists, scientists, managers, administrators and other professionals from all over the world work for WHO in 147 country offices, six regional offices and at the headquarters in Geneva, Switzerland.



WHO's definition of health

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

(WHO Constitution, 1948)



Health is a human right



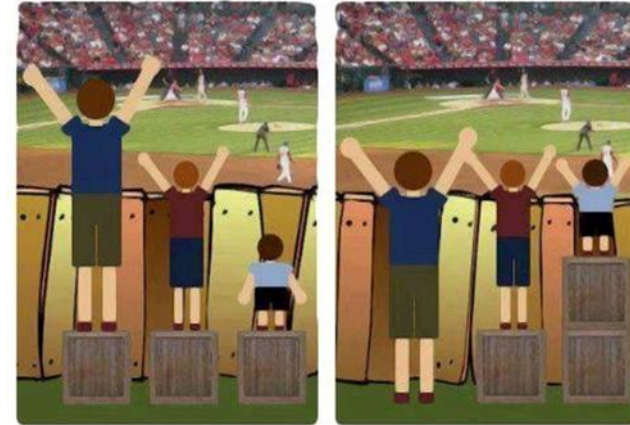
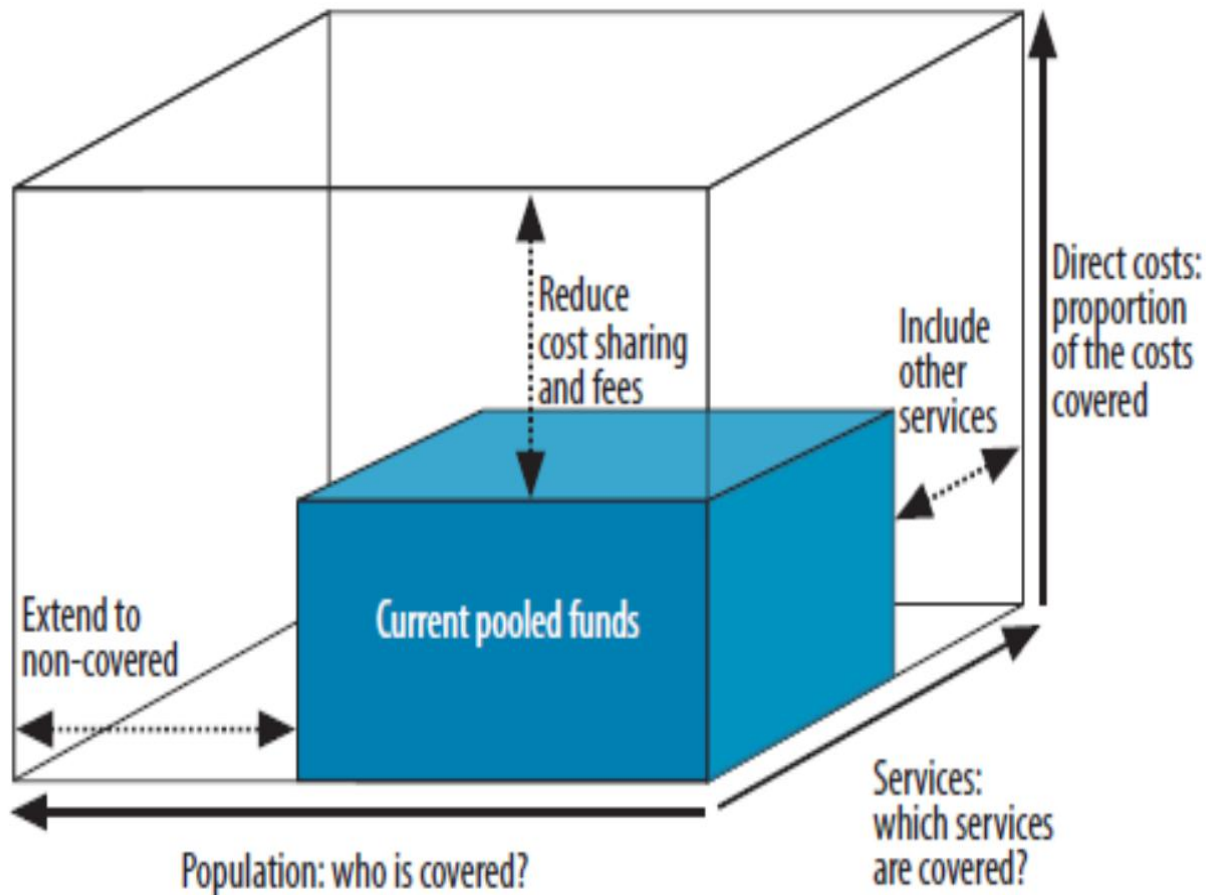
Buenos Aires, 11th April 2015



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Universal health coverage

WHO Member States adopted this goal in 2005

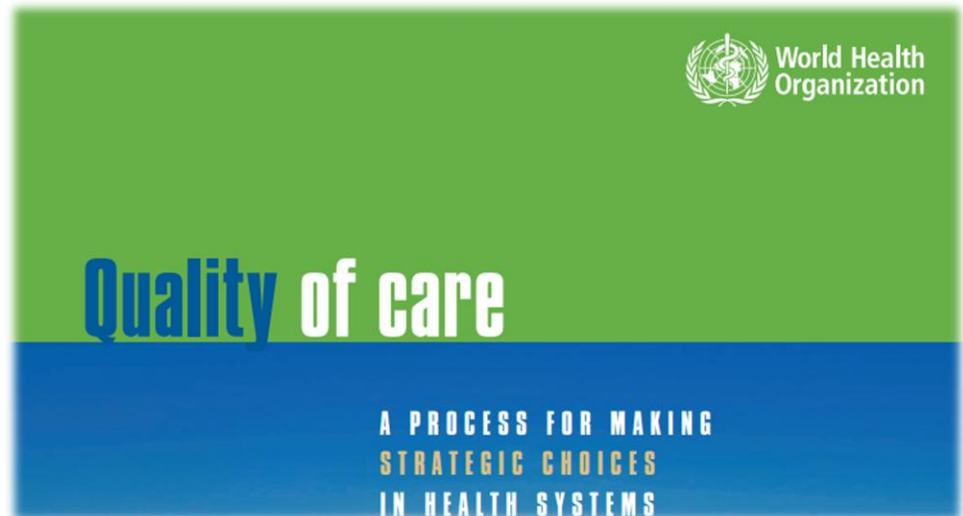


Equality ≠ Equity

Health Care Quality Dimensions

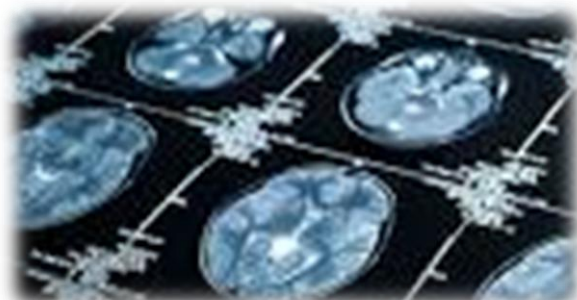
- Safety

- Effectiveness
- Patient-centeredness
- Timeliness
- Efficiency
- Equality



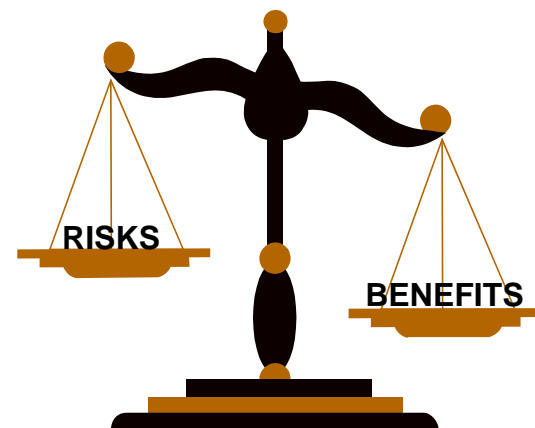
Medical uses of ionizing radiation

The largest artificial source of human radiation exposure are X-ray machines and other radiation medical devices.



RP in medicine: a major challenge

- Need to control and minimize health **risks**, while maximizing the **benefits**.
- Assessing, managing, and communicating **radiation risks**.



WHO is conducting a Global Initiative on Radiation Safety in Health Care Settings



Diagnostic radiology



Interventional radiology

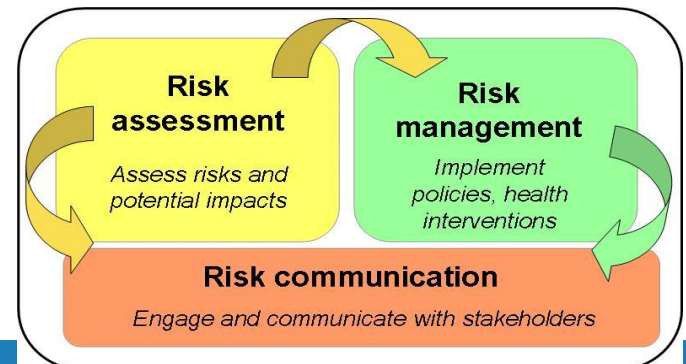


Radiotherapy



Nuclear Medicine

To promote safe and appropriate use of radiation in health care



Safety culture in health care settings

To promote safer patient care, professional and organizational cultures in health care settings must

abandon the philosophy of perfect, error-free performance



Health care is yet behind other industries in putting safety first when dealing with its consumers

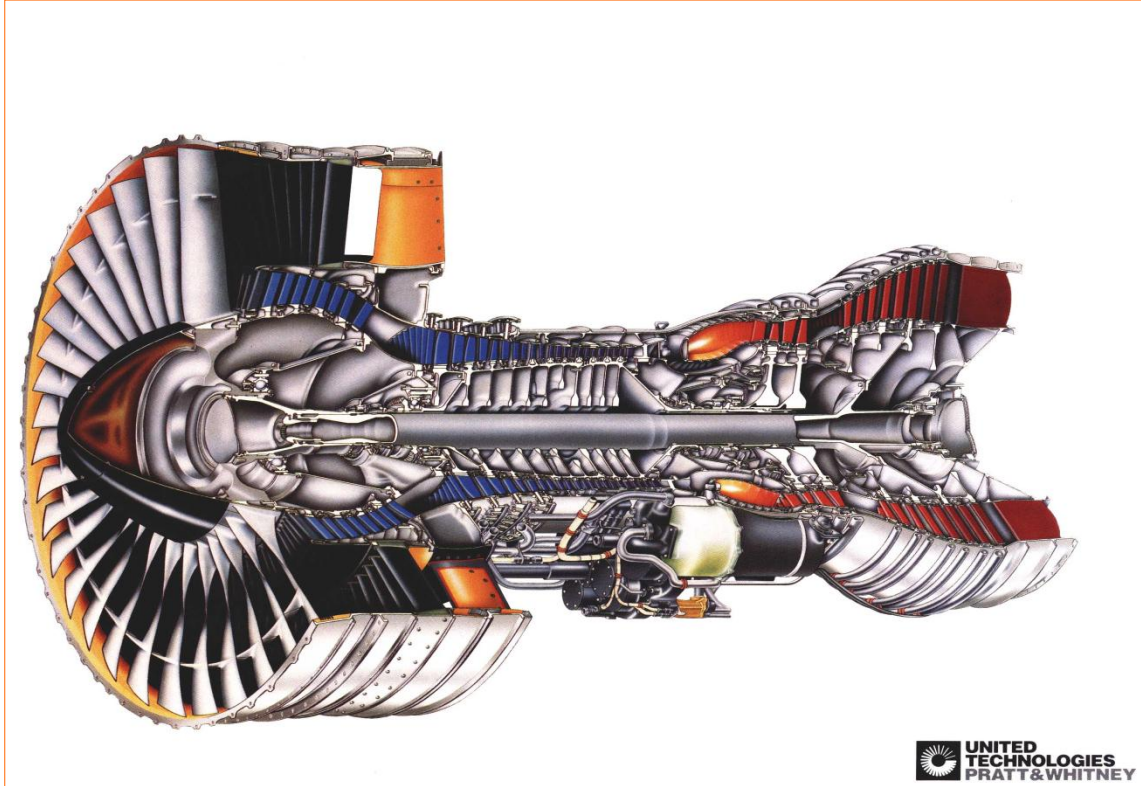


Need for tools: risk profile assessment, risk analysis, classification of adverse events and near misses, reporting and learning systems, ...

Towards building learning organizations

- One of the most frustrating aspects of healthcare is the apparent **failure** of health-care systems **to learn from their mistakes**
- Too often **neither** health-care providers **nor** health-care organizations **advise** others **when a mishap** occurs, **nor** do they **share** what they have **learned** when an investigation has been carried out.
- As a result, **the same mistakes occur repeatedly** in many settings and patients continue to be harmed by preventable errors.

The Orange-Wire Test



Imagine a jet aircraft which contains an orange coloured wire essential for its safe functioning. An engineer in one part of the world in a pre-flight inspection spots that the wire is frayed suggesting a critical fault. What would happen next? It is likely that most 757 engines in the world would be inspected—probably within days—and the orange wire, if faulty, renewed.

When will healthcare pass the Orange Wire Test?

Sir Liam Donaldson, published in The Lancet (2004: 364; 1567-1568)

- *"... A systematic fault that put patients' lives at risk discovered in one country would not surely be rapidly and simultaneously corrected by health services across the world".*
- *"The belief that one day it may be possible for the bad experience suffered by a patient in one part of the world to be a source of transmitted learning that benefits future patients in many countries is a powerful element of the vision behind the WHO World Alliance for Patient Safety"*

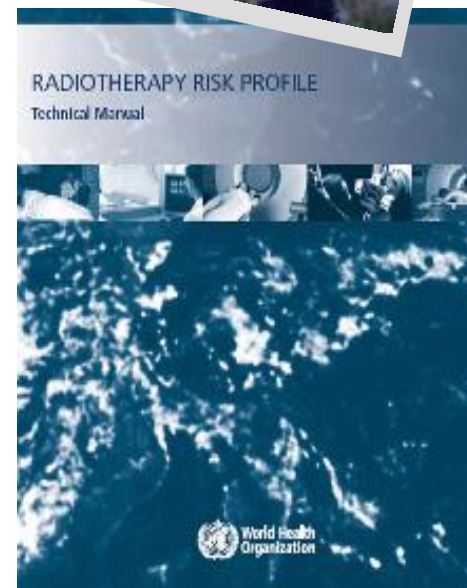
Sir Liam Donaldson, WHO Envoy for Patient Safety

WHO Draft Guidelines for Adverse Event Reporting and Learning Systems, 2005



Adverse events reporting and learning systems in health care

- **Primary prevention first!** Adverse event reporting & learning systems enhance patient safety.
- These systems should lead to a constructive response based on **dissemination of lessons & prospective risk analysis** for preventing similar events.
 - WHO is working towards harmonization of safety taxonomy and consistent terminology across medical areas. New inter-cluster project to promote reporting & learning at medical facilities

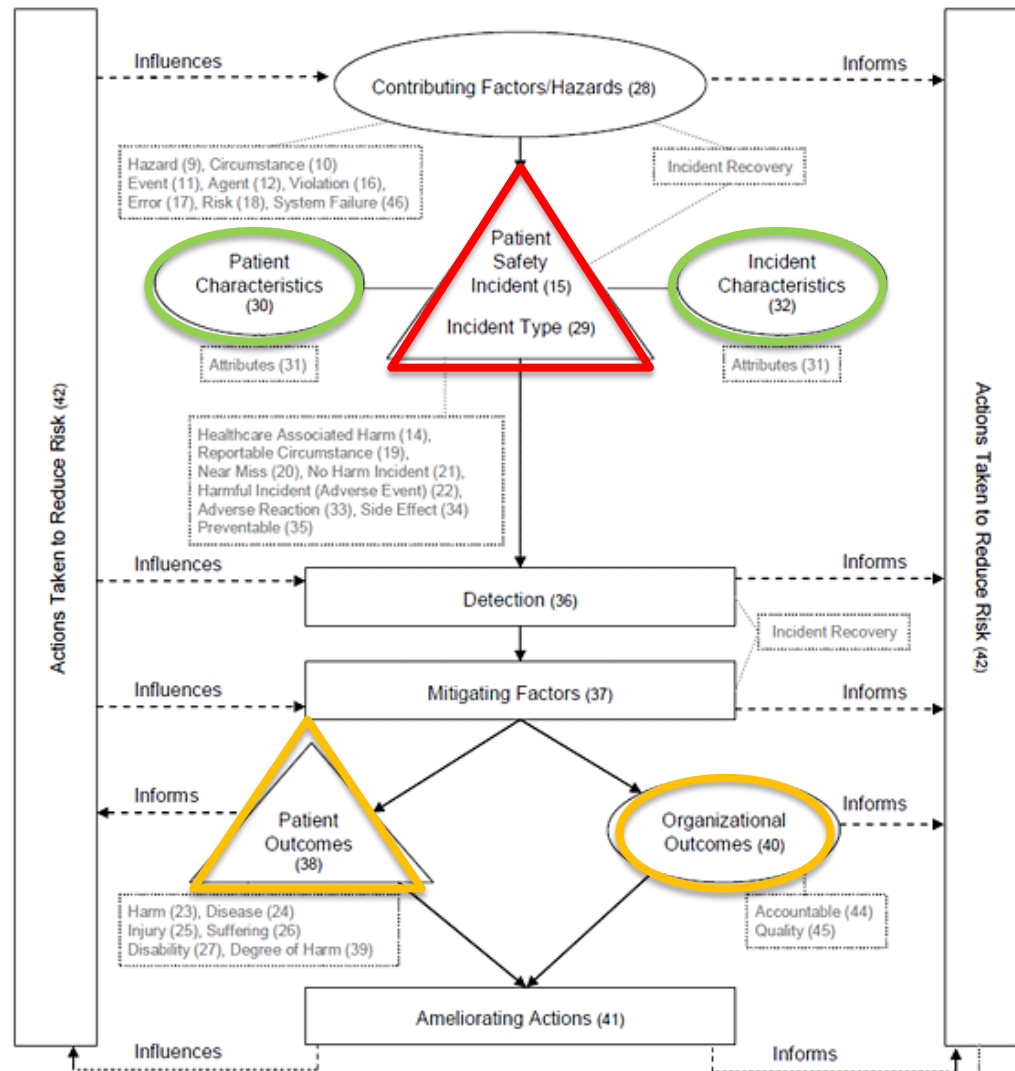


Conceptual Framework for the International Classification for Patient Safety

Classification (1), Concept (2)
Class (3), Semantic Relationship (4)

Patient (5), Healthcare (6)
Health (7)

Safety (8)
Patient Safety (13)



- System Resilience (Proactive & Reactive Risk Assessment)
- △ Clinically meaningful, recognizable categories for incident identification & retrieval
- Descriptive information
- ▭ Relevant key concepts with preferred terms

The Conceptual Framework (CF) for the International Classification for Patient Safety



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Minimal Information Model for Adverse Event Reporting in Health Care

WHO Inter-Cluster Task Force

Patient Safety

Pharmacovigilance

Safety in surgery

Injection Safety

Radiation Safety

Safety in vaccination

Blood Safety

Human-derived

Technovigilance

IAEA participates in this project (**SAFRON**)

MIM Consultation 1-2 April 2014, WHO HQ, Geneva

Buenos Aires, 11th April 2015



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Engaging Patients for Patient Safety

- **Patients for Patient Safety (PFPS)** is a WHO programme that brings together patients, providers, and policy-makers to improve health-care safety through advocacy, collaboration and partnership.
- **PFPS Vision:** "A world in which patients are treated as partners in efforts to prevent all avoidable harm in healthcare."
- **PFPS** calls for honesty, openness and transparency, and aims to make the reduction of healthcare errors a basic human right that preserves life around the world" (*London Declaration, 2005*).

February 2013

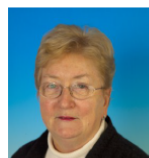
**Stakeholders'
engagement
to improve
safety culture
in health care:**

**Patients'
associations
are key
stakeholders**

Buenos Aires, 11th April 2015

Welcome!

Margaret Murphy, Lead Advisor, Patients for Patient Safety (PFPS)



Happy New Year to all and welcome to the first edition of PFPS News for 2013. We have lots of good news to share with you.

The PFPS Steering Group held a meeting in January. It was a welcome opportunity for the Group to get to know Nittita Prasopa-Plaizier, the new PFPS Technical Lead. Nittita is truly passionate about the work and ethos of PFPS and she will be a wonderful asset presenting PFPS as an

Look inside:

- Infection Prevention Conference, Benin
- Patient Safety in Slovakia

Radiation Protection in Medicine

Nittita Prasopa-Plaizier, PFPS Technical Lead, Maria Perez, WHO Dept. of Public Health and the Environment, Margaret Murphy, PFPS Lead Advisor, and Stephanie Newell, PFPS Champion, Australia



In December 2012, Nittita Prasopa-Plaizier, Margaret Murphy and Stephanie Newell represented the PFPS programme at a workshop "Radiation risk communication in paediatric imaging", at the "International Conference on Radiation Protection in Medicine", held in Bonn, Germany. The conference was organized by the International Atomic Energy Agency (IAEA), co-sponsored by WHO and hosted by the Government of Germany. It was attended by about 600 people from over 90 countries.

with the medical purpose". Radiation protection in medicine aims to ensure medical procedures relating to radiation are performed safely through correct indication, dosing and calibration of radiotherapy machines, and strict adherence to procedures.

Margaret presented the patients' perspective to about 60 experts at the workshop organized by WHO's Department of Public Health and the Environment. Nittita worked with Dr Maria Perez to collaborate on the planning and workshop organization. Margaret again presented at a "round table" session at the conference on patients' role in radiation safety.

Stephanie's participation at both events was

To support the implementation of the recommendations of the Bonn Conference

Bonn Call for Action

10 actions to improve radiation protection in medicine in the next decade



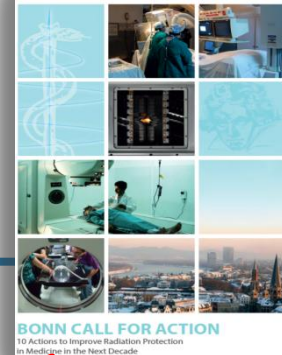
http://www.who.int/ionizing_radiation/about/med_exposure/en/

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Bonn Call for Action



1. Enhancing implementation of justification of procedures
2. Enhancing implementation of optimization of protection
3. Strengthening manufacturers' contribution to radiation safety
4. Strengthening RP education and training of professionals
5. Shaping & promoting a strategic research agenda for RP in medicine
6. Improving data collection on exposures of patients and workers
7. Improving prevention of incidents and adverse events
8. Strengthening radiation safety culture in health care
9. Fostering an improved radiation benefit-risk-dialogue
10. Strengthening the implementation of safety requirements (BSS) globally

Translations done into Chinese, Japanese, Portuguese, Spanish

http://www.who.int/ionizing_radiation/about/14-2649_bonncallforaction.pdf?ua=1

<https://rpop.iaea.org/RPOP/RPoP/Content/News/bonn-call-for-action-joint-position-statement.htm>

Buenos Aires, 11th April 2015



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Radiation/risk benefit dialogue in the Bonn Call for Action



1. Enhancing implementation of justification of 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 & 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**
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Action 7: Improve prevention of medical radiation incidents and accidents

- Implement and support voluntary **safety reporting systems** for the purpose of learning from the return of experience of safety related events in medical uses of radiation;
- **Harmonize taxonomy** in relation to medical radiation incidents and accidents, as well as related communication tools such as severity scales, and consider **harmonization with safety taxonomy in other medical areas**;
- Work towards inclusion of **all modalities** of medical usage of ionizing radiation in voluntary safety reporting, with an emphasis on brachytherapy, interventional radiology, and therapeutic nuclear medicine in addition to external beam radiotherapy;
- Implement **prospective risk analysis** methods to enhance safety in clinical practice;
- Ensure prioritization of **independent verification of safety** at critical steps, as an essential component of safety measures in medical uses of radiation.

Action 8: Strengthen radiation safety culture in health care

- a) Establish **patient safety** as a strategic priority in medical uses of ionizing radiation, and recognize leadership as a critical element of strengthening radiation safety culture;
- b) Foster closer **co-operation between radiation regulatory authorities, health authorities and professional societies**;
- c) Foster closer **co-operation on radiation protection between different disciplines** of medical radiation applications as well as between **different areas of radiation protection** overall, including professional societies and patient associations;
- d) Learn about **best practices** for **instilling a safety culture from other areas**, such as the nuclear power industry and the aviation industry;
- e) Support integration of **radiation protection aspects in health technology assessment**;
- f) Work towards recognition of **medical physics** as an independent profession in health care, with **radiation protection responsibilities**;
- g) Enhance information exchange among peers on radiation protection and safety-related issues, utilizing **advances in information technology**.

Safety culture- 3 main developmental stages

- **Stage 1:** Basic compliance system - safety training programs, work conditions, procedures and processes comply with regulations. This is passive compliance.
- **Stage 2:** Self-directed safety compliance system – workers ensure regulatory compliance and take personal responsibility for training and other regulatory provisions. This emphasizes active compliance with the regulations.
- **Stage 3:** Behavioral safety system – teaching individuals to scan for hazards, to focus on potential injuries and the safe behavior(s) that can prevent them, and to act safely.

RP culture in health care (I)

- Radiation protection (RP) culture in health care is embedded in the broader concept of patient safety and included in the notion of good medical practice.
- It is the product of individual and group values, attitudes, perceptions, goals, patterns of behaviour and practices that determine the commitment and proficiency of a healthcare institution on radiation safety management.
- The ultimate goal of is to control radiation risks while maximizing the benefits for patients' care.

RP culture in health care (II)

- RP culture exists in medicine when health workers take an active role in ensuring safe and appropriate use of radiation and when the medical organization supports this role and shares the same cultural values.
- While the establishment of a RP culture in medicine starts with a top-down approach, its promotion and maintenance needs the engagement of all the relevant stakeholders involved in the health care pathway:
 - health authorities, policy makers, senior hospital managers, physicians, medical physicists, radiographers, technicians, support staff, patients and families.

RP culture in health care (III)

- The working environment should foster excellence in medical care- the health care organizations should continually seek to improve service quality and safety in health care delivery.
- Leadership is a critical element for establishing RP culture, and team work is a key factor for maintaining and strengthening RP culture.
- Education and training of health professionals is a key component of RP culture
 - Interdisciplinary training that includes methods for team management and builds/maintains/improve team members capacities (knowledge, competence, skills, attitudes).

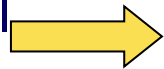
RP culture in health care (IV)

- A close cooperation between relevant professional societies, radiation regulatory bodies and health authorities is needed for a successful implementation of RP culture in medicine.
- Other key factors are the promotion of individual and collective commitment, the provision of means to support individuals/teams in performing their tasks safely and successfully, the encouragement of stakeholders' participation (in particular: workers' and patients' representatives), ensure accountability of the individuals and the organization.

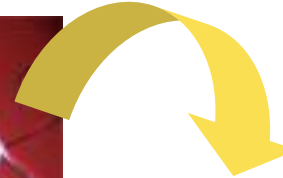
Enhancing radiation protection culture in health care



A number of efforts involving international organizations, professional and scientific societies



Interaction?
Joint projects?
Overlapping?
Duplication?
Needs?
Gaps?



Coordination, cooperation, complementation, synergies (global, regional, national and local levels)



Thank you very much!

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