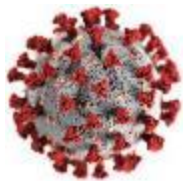




World Health  
Organization

# Updates from the WHO Radiation Programme

Dr Zhanat Carr  
Radiation and Health Unit  
Dept of Environment, Climate Change and Health

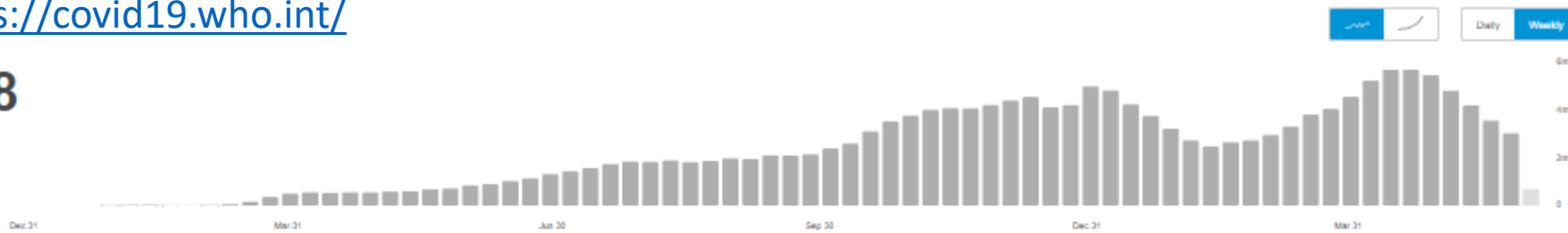


# Response to COVID-19 Pandemic

Globally, as of 5:32pm CEST, 8 June 2021, there have been **173,331,478 confirmed cases** of COVID-19, including **3,735,571 deaths**, reported to WHO. As of 8 June 2021, a total of **2,092,863,229 vaccine doses** have been administered.

Global Situation <https://covid19.who.int/>

**173,331,478**  
confirmed cases



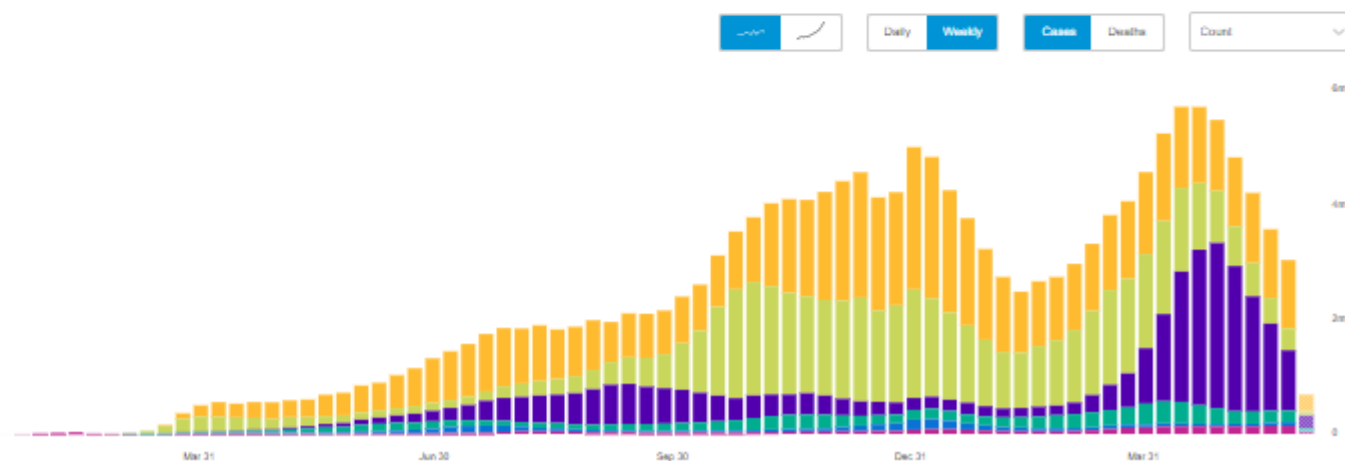
**3,735,571**  
deaths



Source: World Health Organization  
Data may be incomplete for the current day or week.

## Situation by WHO Region

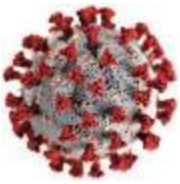
Americas	68,655,985 confirmed
Europe	54,718,053 confirmed
South-East Asia	32,877,008 confirmed
Eastern Mediterranean	10,325,014 confirmed
Africa	3,580,822 confirmed
Western Pacific	3,173,832 confirmed



Source: World Health Organization  
Data may be incomplete for the current day or week.

# The pillars of WHO's response to COVID-19





# Response to COVID-19 Pandemic



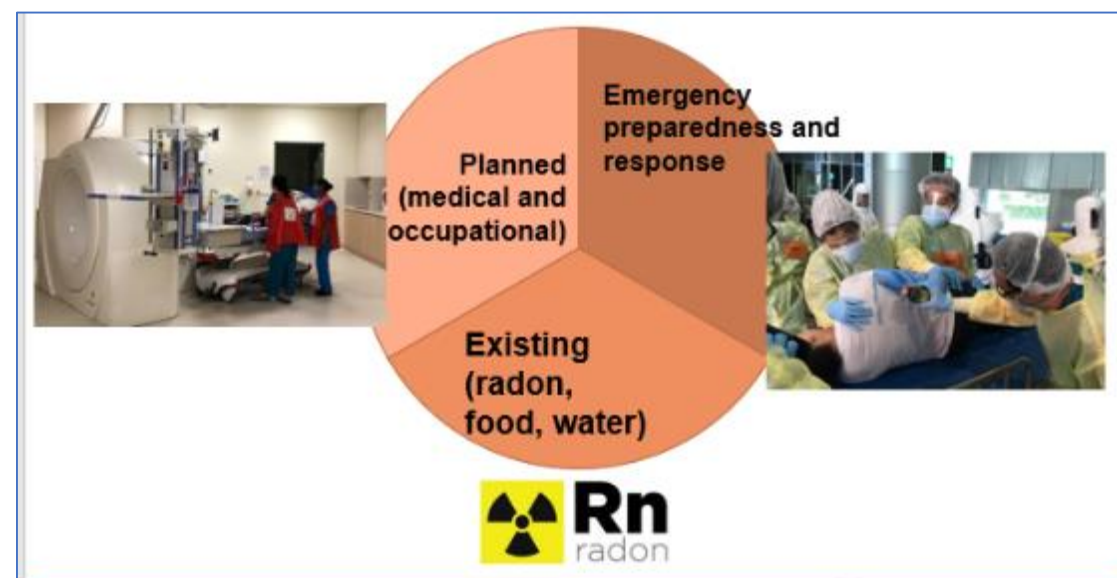
## Global overview of deployed resources



# Radiation and Health Unit (RAD)

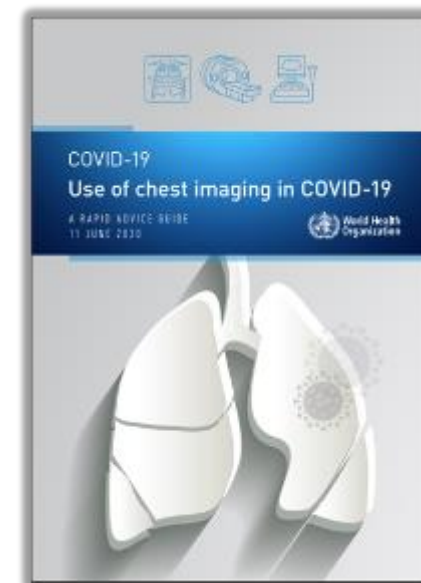
- Located within the Division of Healthier Populations (HEP) – led by the Assistant Director General, Dr Naoko YAMAMOTO
- Within the Department of Environment, Climate Change and Health (ECH) – Director Dr Maria NEIRA
- RAD Unit Head – Dr Emilie VAN DEVENTER
- Areas of work:
  - ✓ Non-ionizing radiation (EMF, optic radiation, etc.)
  - ✓ Ionizing radiation (natural, planned, accidental)
  - ✓ Support for the WHO'S Work in Health Emergencies (WHE Division)
- RAD is a WHO focal point for IEC/IAEA and other stakeholders for all matters related RN emergencies preparedness, response and recovery

<https://www.who.int/health-topics/radiation>



# Radiation and Health Unit in COVID-19 response

- Conducted a mini-survey of collaborating centers on their involvement in national or regional response - “taking pulse”
  - Both professional and personal reactions/impressions
- Responded to “Infodemic” management (UV use and rumors on 5G mobile technology)
- In response to MS requests developed a guidance on chest imaging for COVID-19 and derivative products:
  - Rapid advice guide on chest imaging in COVID-19
  - Technical specifications for imaging equipment.
  - Training package (e-learning) with modules on imaging guidelines, imaging findings and safety procedures.
  - Chest imaging section in the definition of probable case.
  - Manuscripts, new evidence reviewed, future updates (including post COVID-19 conditions)





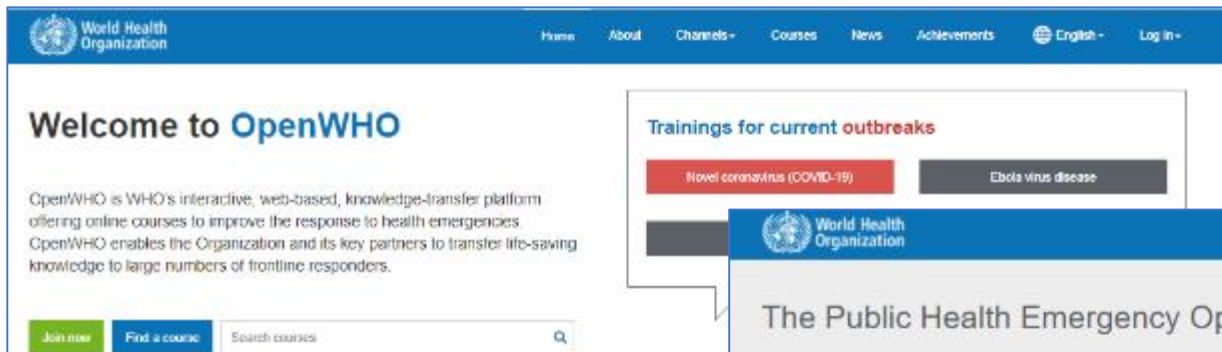
# WHO Academy learning app

A free app available in seven languages – Arabic, Chinese, English, French, Portuguese, Russian and Spanish- in the Apple App Store and the Google Play Store

[www.academy.who.int](http://www.academy.who.int) 3 modules on chest imaging coming soon

A graphic showing WHO Academy statistics and training resources. It includes the WHO logo and "Health Learning". Statistics listed are: 41 languages, Over 2.3 million certificates, 134 COVID-19 courses, and a large blue circle with "4 539 423 Course enrollments". Below this is a section for "Real-time training for COVID-19" with icons for various topics like "Protective equipment", "Hand hygiene", "Country cooperation", "Treatment facilities", "Field data", "Mask gathering", and "Living with case". It also features a "Attention health workers" callout and the "OpenWHO.org" logo.

# Open WHO training platform



World Health Organization

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## Welcome to OpenWHO

OpenWHO is WHO's interactive, web-based, knowledge-transfer platform offering online courses to improve the response to health emergencies. OpenWHO enables the Organization and its key partners to transfer life-saving knowledge to large numbers of frontline responders.

[Join now](#) [Find a course](#)



Trainings for current outbreaks

[Novel coronavirus \(COVID-19\)](#) [Ebola virus disease](#)



Now **5 million** course enrolments!

OpenWHO.org  
#LearningSavesLives



2020

openwho.org

Essential responses

OpenWHO is an interactive, web-based, knowledge-transfer platform offering online courses to improve the response to health emergencies. OpenWHO enables the Organization and its key partners to transfer life-saving knowledge to large numbers of frontline responders.

OpenWHO is an interactive, web-based, knowledge-transfer platform offering online courses to improve the response to health emergencies. OpenWHO enables the Organization and its key partners to transfer life-saving knowledge to large numbers of frontline responders.



### News

[\[Invitation à un webinaire\] Combattons la COVID-19: la langue française peut sauver des vies | Célébrons ensemble la Journée](#)

[Let's celebrate World Hearing Day 3 March – Join our Indian Sign Language course](#)

[Marking the Hearing Day 3 March – Join our Indian Sign Language course](#)

[Stories from Kazakhstan](#)



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## The Public Health Emergency Operations Centre (PHEOC)

[Course is available](#)

[Learnings](#) [Discussions](#) [Progress](#) [Certificates](#) [Collab Space](#) [Course Details](#) [Documents](#) [Announcements](#)

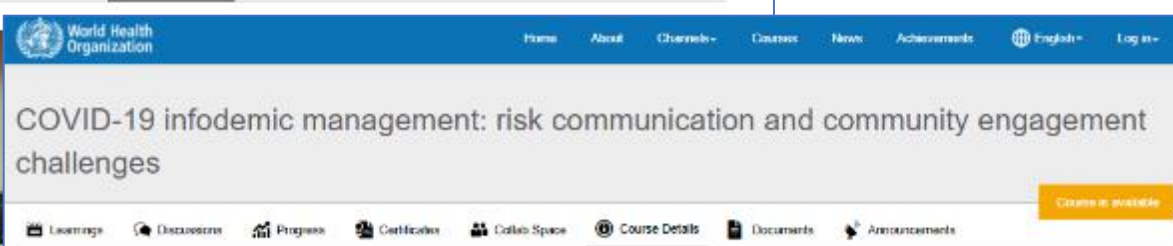


### Course information

Please note this course is in the process of being translated into all UN languages so we are currently available in the following languages:

English

Overview: In 2012, WHO established the Public Health Emergency Operations Centre for a Public Health Emergency Operations Centre (PHEOC), in collaboration with ECDC, methodical guidance for designing, developing and strengthening of PHEOCs. This only



World Health Organization

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## COVID-19 infodemic management: risk communication and community engagement challenges

[Course is available](#)

[Learnings](#) [Discussions](#) [Progress](#) [Certificates](#) [Collab Space](#) [Course Details](#) [Documents](#) [Announcements](#)



[Share](#) [Tweet](#) [Like](#) [Mail](#)

This infodemic management course applies evidence-based guidance to the COVID-19 pandemic. It covers key risk communication and community engagement (RCCE) principles and illustrates how they can be operationalized in the context of an extended outbreak that affects different populations with varying risk levels. Illustrations from WHO headquarters, regions, and Ministries of Health provide concrete examples of messaging and other communication interventions developed during COVID-19.

Photo credit: WHO Bangladesh/ Tatiana Almeida

[Self-paced](#)  
[Language: English](#)  
[COVID-19](#)

[Enroll me for this course](#)



### Course information

Overview: This course will focus on how countries, communities and individuals are managing public health and social measures by maintaining what's working while addressing challenges that still lie ahead for 2021. As countries are going in and out of restrictions, the COVID-19 pandemic is having significant impacts on people's everyday lives.

Learning objectives: By the end of this course, participants should be able to:

- explain how to sustain behaviour change for the next phase of the response; and



### Enroll me for this course

The course is free. Just register for an account on OpenWHO and take the course!

[Enroll me now](#)

Learners enrolled: **5249**



# International Partnerships in rad-nuc EPR

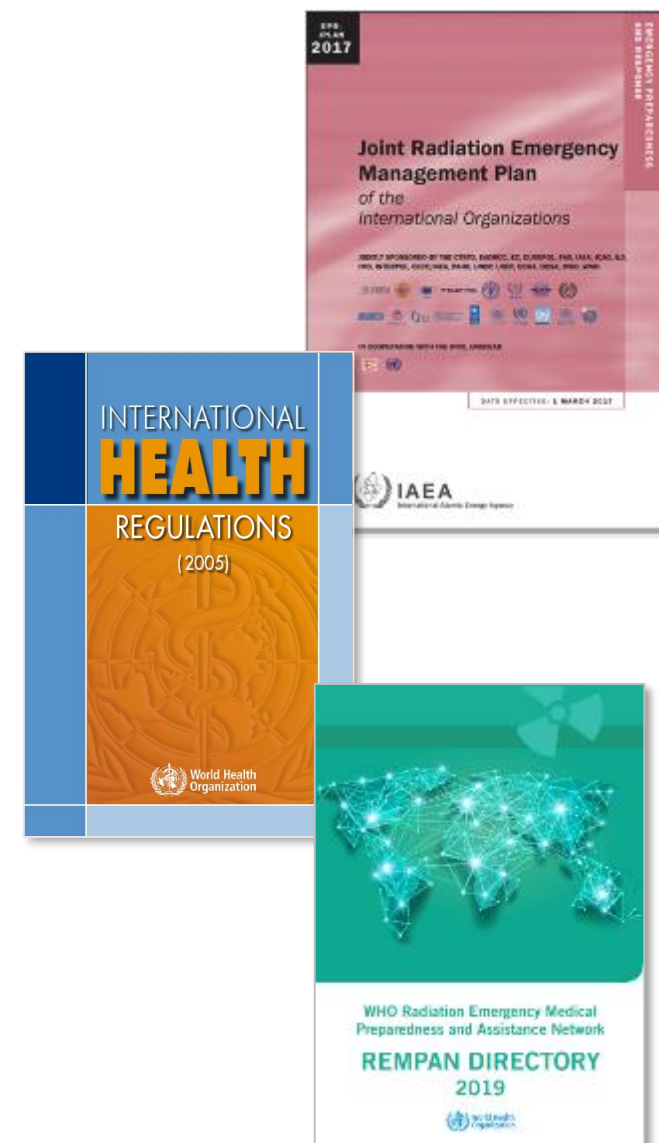
- UN agencies and members of the Inter-Agency Committee for Radiological and Nuclear Emergencies (IACRNE) with 15 participating international organizations

<http://www-ns.iaea.org/tech-areas/emergency/inter-agency-matters.asp>

- Member/observer organization of IAEA's EPRSSC
- NEA/OECD – CRPPH / Working Party on Nuclear Emergency Matters - WPNEM
- Global Health Security Initiative (GHSI) Working Group on radiological and nuclear threats (RNWG) <http://www.ghsi.ca/>
- Regional partnerships (HERCA WE, **NERIS**, RENEb etc.)
- NGOs and professional societies (ICRP, IRPA, etc.)
- WHO Collaborating Centres and expert networks

<https://www.who.int/about/partnerships/collaborating-centres>

- **REMPAN network** <https://www.who.int/groups/rempan>
- **BioDoseNet network** <https://www.who.int/groups/biodosenet>



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## Collaborating centres

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[Information for WHO collaborating centres](#) >

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[WHO Collaborating Centres Global database](#) >

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[Networks of WHO collaborating centres](#) >

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### Over 800 institutions in over 80 countries supporting WHO programmes

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WHO collaborating centres are institutions such as research institutes, parts of universities or academies, which are designated by the Director-General to carry out activities in support of the Organization's programmes. Currently there are over 800 WHO collaborating centres in over 80 Member States working with WHO on areas such as nursing, occupational health, communicable diseases, nutrition, mental health, chronic diseases and health technologies.



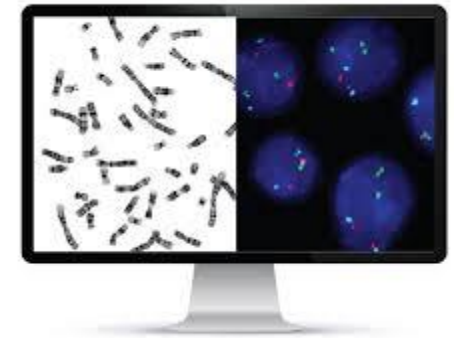
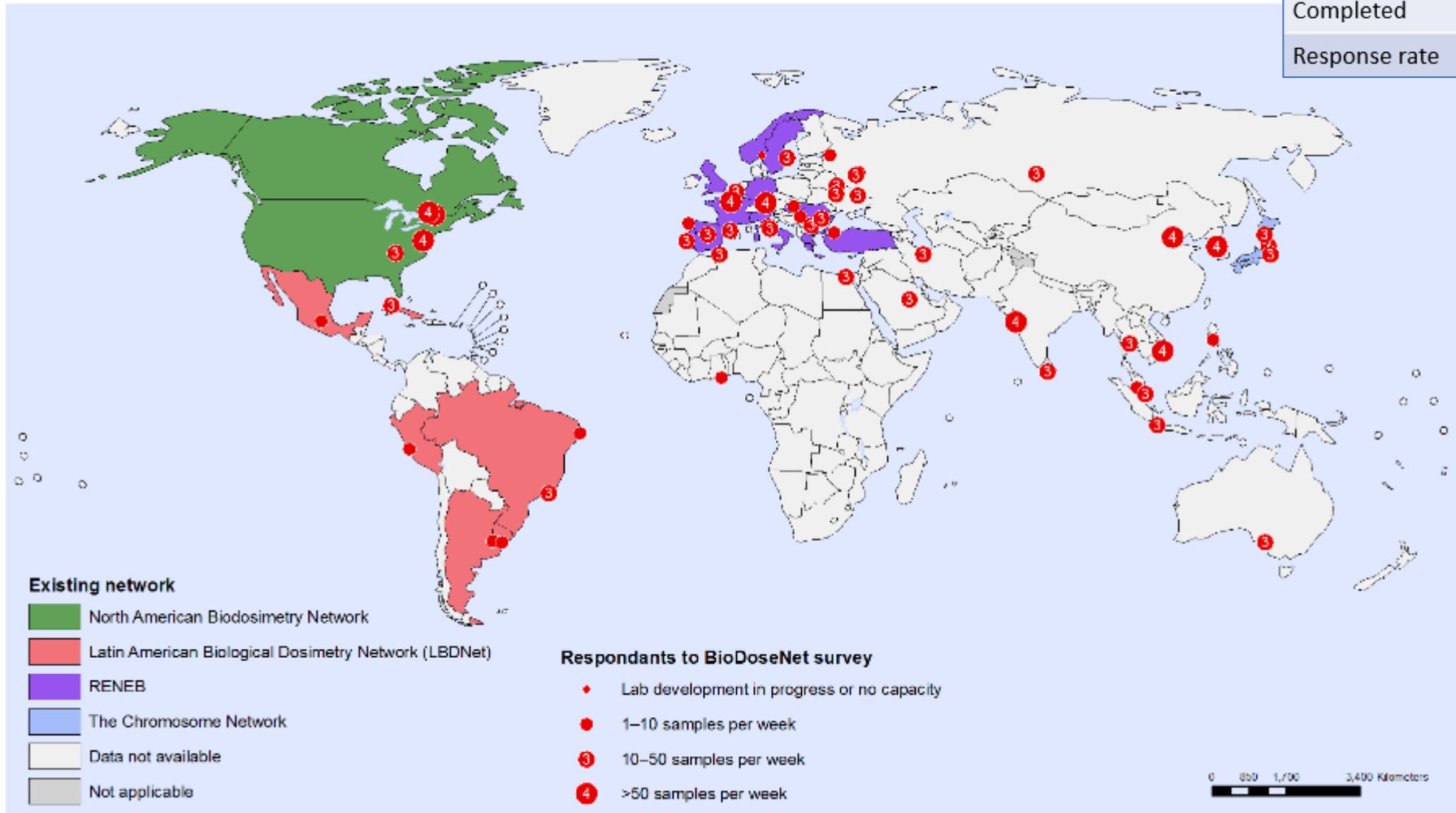




# WHO BioDoseNet

## Biological dosimetry laboratory immediate response capacity, 2015

	2009 survey	2015 survey	2021 survey
Labs invited	65	67	~85
Completed	57	62	62
Response rate	87%	92%	73%



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization  
 Map Production: Information Evidence and Research (IER)  
 World Health Organization



# Co-sponsorship of International Safety Standards, Guides and Technical Reports



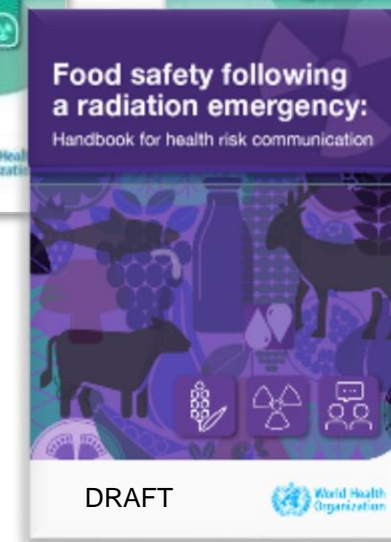
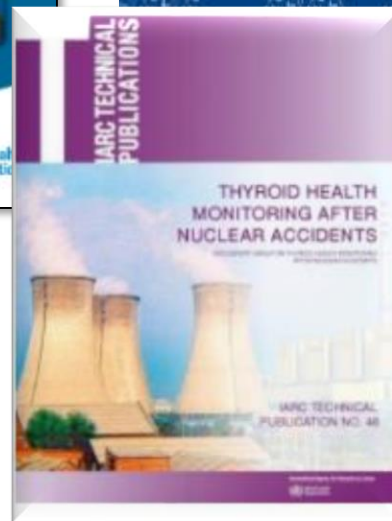
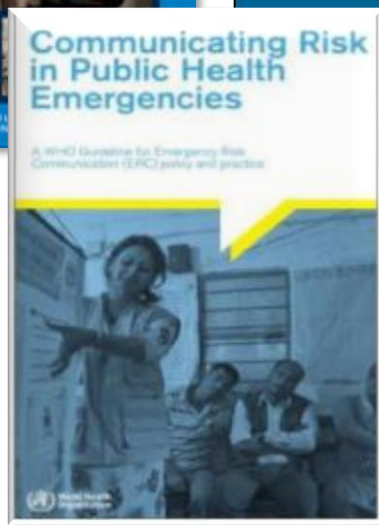
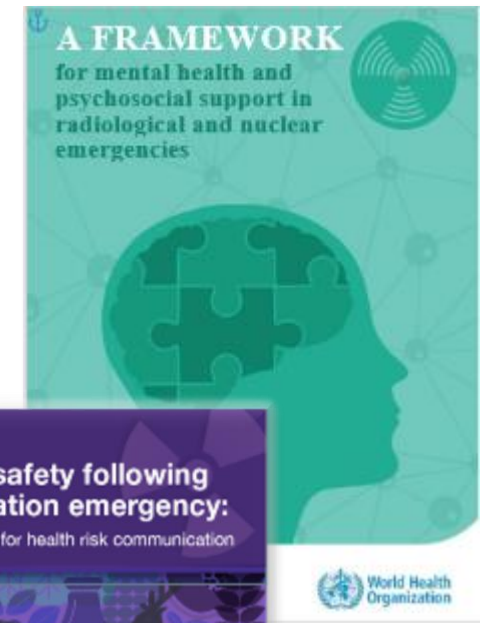
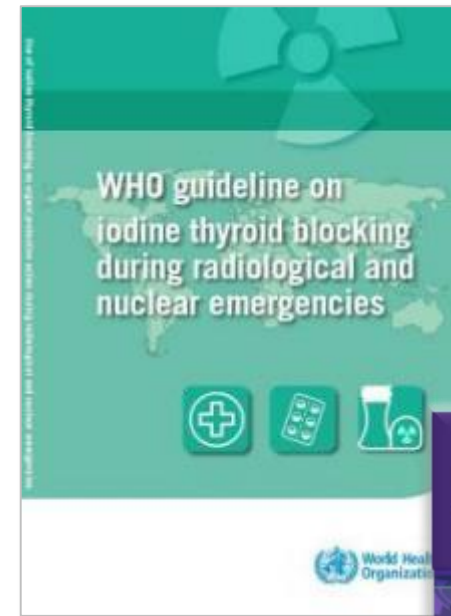
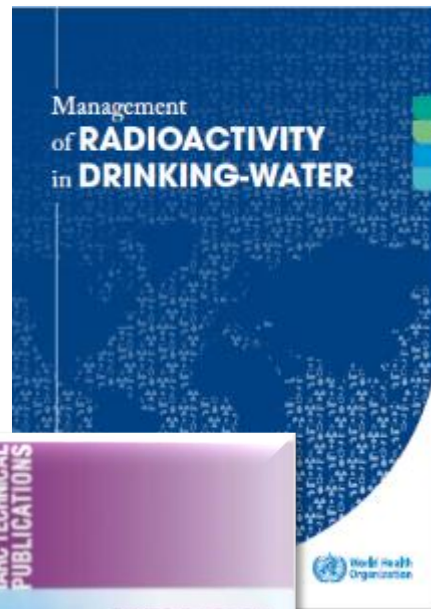
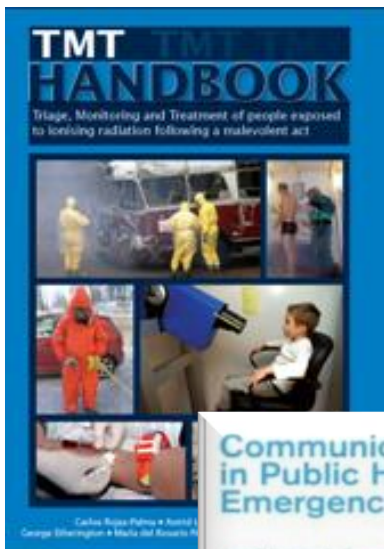
The image displays a collection of IAEA publications, including:

- IAEA Safety Standards for protecting people and the environment: Fundamental Safety Principles (No. SF-1)**
- IAEA Safety Standards for protecting people and the environment: Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards (General Safety Requirements Part 3, No. GSR Part 3)**
- IAEA Safety Standards for protecting people and the environment: Arrangements for Preparedness for a Nuclear or Radiological Emergency (Safety Guide No. GS-G-2)**
- IAEA Safety Standards for protecting people and the environment: Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency (General Safety Guide No. GSG-2)**
- IAEA Safety Standards for protecting people and the environment: Preparedness and Response for a Nuclear or Radiological Emergency (General Safety Requirements No. GSR Part 7)**
- IAEA Safety Standards for protecting people and the environment: Arrangements for the Termination of a Nuclear or Radiological Emergency (General Safety Guide No. GSG-11)**
- Generic procedures for medical response during a nuclear or radiological emergency (2005)**
- Manual for First Responders to a Radiological Emergency (2008)**
- Cytogenetic Dosimetry: Applications in Preparedness for and Response to Radiation Emergencies (2014)**

Two blue arrows point to the 'Generic procedures for medical response...' and 'Manual for First Responders...' covers, both labeled 'In revision'.

An orange box labeled 'Under development: EPR: Medical consequences of radiation injuries Due in 2021' is positioned next to the 'Cytogenetic Dosimetry...' cover.

# Technical reports, guidance and policy development relevant to EPR





# 2017 Iodine Thyroid Blocking Guidelines Translations



Japanese  
2018



Spanish  
2018



Chinese  
2019



Russian  
2019



French  
2020

Portuguese  
2020



# Mental Health and Psychosocial Effects of Nuclear Accidents

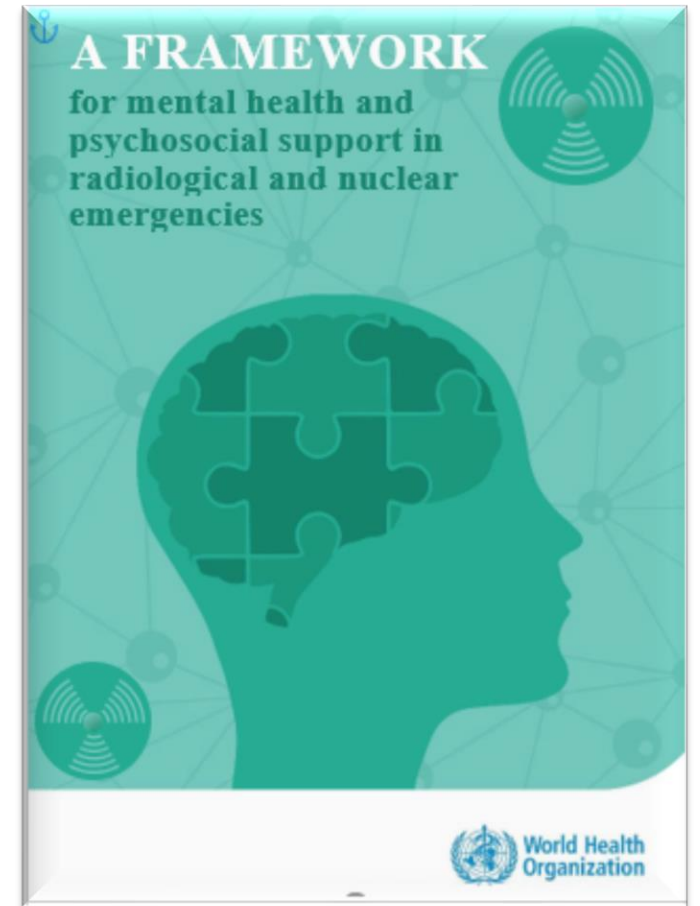
- Numerous reports have also documented psychological consequences among the population affected by past nuclear accidents, indicating a high level of anxiety, PTSD, chronic stress, increased rates of suicide, and stigmatization of affected people
- GSR Part 7, Requirement 16 acknowledges the need to make provisions and address psycho-social impact of RN emergencies but do not offer practical guidance on how exactly these aspects should be addressed in practical terms.
- Existing policy and guidance on mental health and psychosocial support in health emergencies, conflicts, and disasters developed by WHO and the Interagency Standing Committee does not address radiation emergencies





# 2020 Framework for Mental Health and Psychosocial Support (MHPSS) in Case of Radiological and Nuclear Emergencies

- Non-radiological impact of Chernobyl and Fukushima outweigh direct health impact of radiation. Existing systems do not take into account the need to address this “soft” dimension of RN EPR
- Developed by WHO under the joint project with EGNR/WPNEM (NEA/OECD) for addressing management of psycho-social impact of radiological and nuclear emergencies:
  - adapting existing guidelines on MHPSS in emergencies and disasters for radiation emergencies context (2018-20)
  - developing practical tools and arrangements to support MHPSS framework implementation (EGNR task for 2019-21)
- Publication and launch - 27 Nov 2020 (video recording: <https://www.youtube.com/watch?v=2NDuRkJ4c-0>)
- Next phase – implementation of the Framework
  - Japanese translation is on the way



# The 74<sup>th</sup> World Health Assembly (WHA)

## 24-31 May 2021

<https://www.who.int/about/governance/world-health-assembly>



# Selected Resolutions of the 74<sup>th</sup> WHA

- Strengthening local production of **medicines and health technologies**.
- Protecting, safeguarding and investing in the **health workforce** to drive implementation of the WHO Global Strategy on Human Resources for Health.
- Global Strategic Directions for **Nursing and Midwifery 2021–2025**.
- Strengthening WHO preparedness for and response to **health emergencies**.
- Global strategy on **health, environment and climate change** (manifesto for a green and healthy recovery from COVID-19).
- Global Action Plan for the **prevention and control of noncommunicable diseases (NCDs)**: progress report and new implementation roadmap 2023-2030..
- Comprehensive Action Plan on Mental Health up-to 2030 including an indicator on provision of **mental health and psychosocial support during emergencies**.
- Global Action Plan (**GAP**) for Healthy Lives and Well-being for All.
- Adoption of the first ever Global **Patient Safety** Action Plan 2021–2030.



# Training Courses on Medical Response to Radiological and Nuclear Emergencies

- WHO-CDC-China National Training Course on Medical Response to Radiological and Nuclear Emergencies – Hainan, China (Oct 2019)
  - Attended by more than 60 medical specialists from 31 provinces
  - Included in the scope main principles of diagnosis and clinical management of over-exposure to ionizing radiation, e.g. acute radiation syndrome, local injuries, internal contamination, as well as psycho-social effects management and risk communication
- WHO-EURO National Training Course on Early Warning and Response to CBRN events in Ankara, Turkey (Jul 2020)
  - Jointly with MoH, with participation of TAEK, civil defence, law enforcement, and other sectors
  - Held via videoconference
  - Included a table-top exercise





# WHO REMPAN Webinars

## Pre-COVID-pandemic – two webinars per year

- The 1<sup>st</sup> Webinar – March 2018 on public health impact of a nuclear detonation
- The 2<sup>nd</sup> Webinar – Sept 2018 on radiation and thyroid cancer
- The 3<sup>rd</sup> Webinar – Apr 2019 on Mental Health impact of nuclear emergencies
- The 4<sup>th</sup> Webinar – Nov 2019 on Hospital Preparedness for RN emergencies

## *Since 2020 lockdown: webinar “avalanche” → “zoom fatigue”*

- Two joint webinars were organized with NEA/OECD on lessons of COVID for radiation emergencies (summer 2020)
- Webinar-launch of the MHPSS Framework – Nov 2020 ( [video](#) )
- Webinar on Fukushima 10<sup>th</sup> anniversary – 23 March 2021 ( [video](#) )
- Webinar on Chernobyl 35<sup>th</sup> anniversary – 26 April 2021 ( [video](#) )
- Joint WHO-IAEA webinar on medical response – 19 May 2021 ( [video](#) )



# Fukushima at 10:

## New reports:

- NEA/OECD's report on Fukushima – March 2021
- UNSCEAR's update of the 2013 report on Fukushima – March 2021
- IRSN report “Anticipation and Resilience” (WHO Collaborating Center)

## WHO Contributed to the following events:

- ICRP conference on Fukushima – end Nov-Dec 2020
- IRPA-15 Congress in Seoul – Jan 2021
- Fukushima Medical University International Symposium – Feb 2021
- HICARE International symposium dedicated to 75 years of atomic bombings, 30<sup>th</sup> birthday of HICARE and 10<sup>th</sup> anniversary of Fukushima – Hirosaki, Japan – Feb 2021
- WHO Webinar – March 2021
- IAEA conference on Fukushima recovery – Nov 2021



# On-going/Upcoming activities

- Implementation of the new MHPSS Framework – developing practical tools in cooperation with NEA/OECD
- Handbook for risk communication in case of radioactively contaminated food
- Update of the 2007 WHO report on setting up stockpiles for radiological and nuclear emergencies
- Development of guidelines on Internal contamination assessment and management
  - Special protocols for monitoring, criteria, procedures, etc.
  - Evidence-based clinical case management
- Finalization of hospital preparedness checklist
- Update of the 2011 global consensus protocol on management of acute radiation syndrome



[Disaster Med Public Health Prep](#). Author manuscript; available in PMC 2013 May 3.

PMCID: PMC3643115

Published in final edited form as:

NIHMSID: NIHMS458613

[Disaster Med Public Health Prep](#). 2011 Oct; 5(3): 202–212.

PMID: 21987000

Published online 2011 Oct 10. doi: [10.1001/dmp.2011.68](#)

## First Global Consensus for Evidence-Based Management of the Hematopoietic Syndrome Resulting From Exposure to Ionizing Radiation

[Dr Nicholas Dainiak](#), MD, FACP, [Dr Robert Nicolas Gent](#), MB, ChB, FFPH, [Dr Zhanat Carr](#), MD, PhD, [Dr Rita Schneider](#), MD, [Dr Judith Bader](#), MD, [Dr Elena Buglova](#), MD, PhD, DrSci, [Dr Nelson Chao](#), MD, MBA, [Dr C. Norman Coleman](#), MD, [Dr Arnold Ganser](#), MD, [Dr Claude Gorin](#), MD, [Dr Martin Hauer-Jensen](#), MD, PhD, FACS, [Dr L. Andrew Huff](#), MD, [Dr Patricia Lillis-Hearne](#), MD, [Dr Kazuhiko Maekawa](#), MD, PhD, [Dr Jeffrey Nemhauser](#), MD, [Dr Ray Powles](#), CBE, MD, BSc, FRCP, FRCPATH, [Dr Holger Schünemann](#), MD, PhD, [Dr Alla Shapiro](#), MD, PhD, [Dr Leif Stenke](#), MD, PhD, [Dr Nelson Valverde](#), MD, [Dr David Weinstock](#), MD, [Dr Douglas White](#), MD, MAS, [Dr Joseph Albanese](#), PhD, and [Dr Viktor Meineke](#), MD



# Upcoming events

- WHO REMPAN Topical Webinars
  - ✓ Internal contamination – fall 2020
  - ✓ Biodosimetry – spring 2021
- ConvEx-3 (2021) in Abu Dhabi, UAE – October 2021 (under IACRNE)
- The 6<sup>th</sup> Coordination meeting of BioDoseNet (as a satellite meeting of the International Biodose-2021 conference to be held in Japan (early 2022?))
- The 2<sup>nd</sup> IAEA EPR Conference – Oct 2021
- IAEA Conference on Fukushima – Nov 2021



WHO plans to co-sponsor both conferences

**Thank you!**

**CarrZ@who.int**