ASPR TRACIE Technical Assistance Request

Response Date: 01 November 2019

Request:

The requestor asked for sample emergency operations plans or checklists of considerations to assist the development of a nuclear incident emergency operations plan for a hospital located within a 10-mile emergency planning zone (EPZ) of a nuclear power plant.

Response:

ASPR TRACIE reviewed existing resources, including those included in the Radiological and Nuclear and Exercise Program Topic Collections. A list of comprehensively developed Topic Collections can be found here: https://asprtracie.hhs.gov/technical-resources/topic-collection.

The resources that follow are healthcare facility planning guidance for nuclear and radiological emergencies. Please note that some of these documents address the full range of types of radiological and nuclear incidents – including nuclear detonation and radiological dispersal devices – and not all of the information included may be relevant to an incident at a nuclear facility. ASPR TRACIE's Major Radiological or Nuclear Incidents: Potential Health and Medical Implications (annotated later in this response) includes a table beginning on page 4 that compares the various incident types and identifies important considerations for each.

Due to the sensitive nature of this type of planning, ASPR TRACIE did not identify open source plans for hospitals within the 10-mile EPZ. However, we reached out to members of the ASPR TRACIE Subject Matter Expert Cadre for their recommendations. We will update this response if we receive any information from them.

ASPR TRACIE. (2018). Healthcare Challenges After Radiological Incidents. Office of the Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services.

In this ASPR TRACIE webinar, experts shared tips on assessing, triaging, treating, and following-up with patients affected by radiological or nuclear emergencies. Strategies for handling the initial surge of patients and planning for community receptions centers were also discussed.

ASPR TRACIE. (2018). Major Radiological or Nuclear Incidents: Potential Health and Medical Implications. Office of the Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services.

This ASPR TRACIE document provides an overview of the potential health and medical response and recovery needs following a radiological or nuclear incident and outlines available resources for planners.

Centers for Disease Control and Prevention. (2013). Acute Radiation Syndrome: A Fact Sheet for Clinicians. U.S. Department of Health and Human Services.

This fact sheet provides information on the symptoms and stages of acute radiation syndrome (ARS), as well as patient management for ARS. Information on cutaneous radiation syndrome is also included.

Coleman, C.N. and Koerner, J.F. (2016). Biodosimetry: Medicine, Science, and Systems to Support the Medical Decision-Maker Following a Large Scale Nuclear or Radiation Incident. Radiation Protection Dosimetry. 172:38-46.

The authors share how biodosimetry assays can help healthcare providers provide medical evaluation and care in a radiological or nuclear incident.

Emergency Management Branch, Ontario Ministry of Health and Long Term Care. (2014). Radiation Health Response Plan.

While from Canada, much of the information in this plan is based on U.S. guidance and resources. Information directed toward hospitals is contained throughout the plan. Appendix K provides detailed descriptions of various radiological emergency scenarios and their associated priority response actions related to acute exposure, external contamination, internal contamination, and psychosocial risks. The first five scenarios are relevant to those within an EPZ.

International Atomic Energy Agency. (2018). Medical Management of Persons Internally Contaminated with Radionuclides in a Nuclear or Radiological Emergency.

This document can help emergency healthcare providers learn more about medically managing patients who have been internally contaminated through inhalation, ingestion or absorption of radionuclides in a nuclear or radiological emergency. It includes several scenarios and sample data that can be adapted to suit a facility's or jurisdiction's needs.

Oak Ridge Institute for Science and Education. (n.d.). The Medical Aspects of Radiation Incidents. (Accessed 10/28/2019.)

This “pocket guide” (available in PDF and iBook formats) provides the basic information responders need to medically manage victims of radiation incidents.

Oak Ridge Institute for Science and Education (ORISE). (n.d.). Radiation Emergency Assistance Center/Training Site (REAC/TS). (Accessed 10/31/2019.)

This webpage links to the Radiation Emergency Assistance Center/Training Site (REAC/TS), which offers several resources to prepare medical professionals to respond to radiological emergencies. There are links to books, live training courses, online trainings, and assessment and treatment guidance documents. REAC/TS staff are available for deployment to provide medical consultation during emergencies, upon request.

Radiation Emergency Assistance Center/Training Site. (2012). Radiation Patient Treatment.

This algorithm can help healthcare providers make quick decisions when treating patients exposed to or contaminated by radiological hazards.

Radiation Emergency Medical Management. (2018). Hospital Activities.

This webpage includes links to resources hospital planners can review to improve preparedness for and response to a radiation incident.

Radiation Emergency Medical Management. (2018). Radiation Incidents: Multimedia Library.

These illustrations, short videos, and other forms of media can help emergency healthcare preparedness planners how to discover a radiation incident; characterize severity; create a timeline; understand different types of incidents (including nuclear power plants/reactors); and communicate with the public in the event of an incident.

Radiation Injury Treatment Network. (2018). FAQ for RITN Interaction with Nuclear Power Plants.

While the Radiation Injury Treatment Network is primarily intended for the response to a catastrophic nuclear detonation or radiological dispersal incident, these frequently asked questions provide information on how the Network interacts with those preparing for nuclear power plant incidents.

The Center for HICS Education and Training. (n.d.). Incident Response Guide: Radiation Incident. (Accessed 10/28/2019.)

This document provides a checklist for hospital emergency planners to use to prepare for response to a radiation incident.

U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. (2012). Medical Planning and Response Manual for a Nuclear Detonation Incident: A Practical Response Guide.

This comprehensive document provides emergency planners with information not only on the effects of radiation and how to measure and treat them, but also on how to communicate during a radiological or nuclear emergency. It also describes federal response roles and the distribution of medical countermeasures for acute radiation sickness in an environment of scarce resources.

U.S. Department of Homeland Security. (2016). Nuclear Radiological Incident Annex to the Response and Recovery Federal Operational Interagency Operational Plans October 2016.

This planning tool consists of a base document and three corresponding incident-specific planning documents. The base document covers general guidance applicable to all radiological and nuclear incidents, and the other documents provide guidance for

suspected or deliberate attacks, inadvertent incidents, and international incidents. This annex can be used by federal, state, local, and voluntary organizations to enhance planning efforts and ensure coordination with federal planning efforts.

Wolbarst, A.B., Wiley, A.L. Jr., Nemhauser, J.B. et al. (2010). Medical Response to a Major Radiologic Emergency: A Primer for Medical and Public Health Practitioners. Radiology. 254(3):660-77.

This article discusses the thermal, blast, and radiation injuries that would be sustained by casualties of a nuclear or radiologic device detonation, or accidental release, such as from a power plant, as well as how to treat them. It also describes the important role physicians who understand the effects of radiation on the human body and how to treat them, will play during a radiological or nuclear emergency.