Planning for Community Reception Centers

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A Tool for Transforming Point of Dispensing Plans into Community Reception Center Plans for Radiation Emergencies

U.S. Department of Health and Human Services
Centers for Disease
Control and Prevention

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Introduction

Document Title	*Planning for Community Reception Centers: A Tool for Transforming Point of Dispensing (POD) Plans into Community Reception Center (CRC) Plans* for Radiation Emergencies or *POD to CRC Planning Tool*
Radiation Emergency	Radiation emergencies can occur anywhere and include radiological devices, nuclear facilities, transportation of radioactive materials, and can be accidental or intentional. Because populations will be displaced by major radiological events, all public health departments would benefit from having plans to care for those affected.
Community Reception	CRCs are locations in which population monitoring can take place during a radiation emergency. **Population monitoring** usually involves evaluating all potentially affected people for: • Needed medical treatment • The presence of radioactive contamination on the body or clothing (external contamination) • The intake of radioactive materials into the body (internal contamination) • The removal of external or internal contamination (decontamination) • The radiation dose received and the resulting health risk from the exposure • Long-term health effects
Public Health Role in	Often, the role of public health is to conduct or assist with population monitoring. However, population monitoring and public health's role differs between jurisdictions. See Topic 1 for more information on establishing the role of public health for a radiation emergency in your jurisdiction.
Objective	To streamline the CRC planning process by using existing POD plans to develop CRC plans.
Benefit to Planners	There are many planning and operational similarities between PODs and CRCs. This tool aims to streamline the planning process by drawing from existing resources, procedures, and partnerships that are outlined in a jurisdiction's POD plan. Local public health planners can use this tool to identify elements from their POD plan that can be modified for their CRC plan instead of starting the planning process from the beginning.
Intended Audiences	Local public health planners without a CRC plan or those in early planning stage *and* state health departments to develop their own CRC plan or use to provide guidance to locals.
Prerequisite	This tool is intended to supplement the CDC's *Population Monitoring in Radiation Emergencies: A Guide for State and Local Public Health Planners* (2nd Edition).[1] It is recommended that users review this document prior to or while using this *POD to CRC Planning Tool.*

Using the POD to CRC Planning Tool

This tool offers high-level summaries, action steps, and checklists for ten major topics for inclusion in CRC plans. These ten topics are: (1) lead agency and public health role, (2) registry and surveillance, (3) communications, (4) CRC sites, (5) stations, (6) staffing and training, (7) equipment and supplies, (8) demobilization, (9) behavioral health, and (10) access and functional needs. When using this tool, refer to your jurisdiction's POD plans, *Population Monitoring in Radiation Emergencies*, and the resources listed to complete each checklist.

Follow the steps outlined on the following page to complete each topic checklist. Topic 1, or Lead Agency and Public Health Role, is used as an example.

Step 1	Locate jurisdiction POD plan
Step 2	Locate and review information in POD plan that is relevant to the section topic
Step 3	Use information and resources from the tool to determine whether the POD plan for each topic and checklist sub-topic is applicable to a CRC plan. If so, check the box in the "Similar to POD plan" column. In this example, the jurisdiction's lead agency for a CRC is not similar to the POD plan. However, many of the partner organizations will be the same for a CRC as a POD, so the "Similar to POD Plan" box is checked. Check the "Similar to POD Plan" box for a topic if ANY of the POD plan is applicable or useful to developing the CRC plan. The next steps will help identify the specific parts of the POD plan that are similar and those that differ from the CRC plan.
Step 4	Next, add the information that will be included in the CRC plan that is relevant to each sub-topic. *To complete this step, you may need to communicate with partners and reference other emergency response plans or jurisdiction-specific resources.*

		Step 5	Fill in the last column with specific details related to each sub-topic or note key differences/similarities between the POD and CRC plans.

Step 5	Fill in the last column with specific details related to each sub-topic or note key differences/similarities between the POD and CRC plans.

	Similar to POD Plan	Components of CRC Plan	Notes
Lead Agency	☐	Emergency Management	*Public health will report to emergency management in a radiation event.*
Partner Organizations	☒	City Police Department Security Company ABC Public Health Nurses Coalition State Radiation Control	*Key personnel and contact information for City Police, Security Company ABC, and the PH Nurses Coalition can be copied from the POD plan.* *State Radiation Control information (not listed in POD plan):* *Phone: (123) 456-7891* *Address: 8910 Applegate St.* *Contact: John Smith*

Step 6	Write the CRC plan, using the topic checklists as an outline.

For more assistance using this tool, please reach out to the CDC Division of State and Local Readiness, Applied Learning and Development Team by emailing: dslrtraining@cdc.gov.

Legal Disclaimer

While using this tool to plan for CRCs, legal questions may arise within your planning team. Please seek the advice of an attorney or regulatory authority from your jurisdiction with questions you may have regarding legal matters, as this document focuses on CRC operations. For more information or to request technical assistance, please visit CDC's Public Health Law Program at https://www.cdc.gov/phlp/index.html.

Public Health Roles

Topic 1: Lead Agency & Public Health Role

Goal

To identify the lead agency, chain of command, and public health role in the case of a radiation emergency

Summary

In a radiation emergency, it is unlikely that the lead agency will be public health, as it often is in emergencies requiring POD activation. The responsibilities of the public health agency include protecting the public's health and safety as well as communicating health-related information to medical providers and the public. During radiation emergencies, public health often has the role of conducting or assisting with population monitoring. Population monitoring at CRCs is a multi-agency effort that may be coordinated by state/local public health or another agency, such as emergency management. Therefore, it is important for public health to establish their role specific to a radiation response within the jurisdiction as a first step in CRC planning.

Action Steps

- Identify the lead agency for the emergency
- Locate and review state and/or local emergency response plans
- Determine roles of lead and partner agencies for radiation emergencies
- Identify and develop relationships with lead and partner agencies
- Establish role of public health within overall response structure of jurisdiction
- Describe how state and federal resources will be integrated into the local response

Resources

- [A Decision Maker's Guide: Medical Planning and Response for a Nuclear Detonation](#)
- [Radiation Planning Annex Template for Local Health Departments](#)
- [Map of Radiation Control Programs in the United States](#)

Lead Agency & Public Health Role Checklist

	Similar to POD Plan	Components of CRC Plan	Notes
Lead Agency	☐		
Partner Organization	☐		
Public Health Roles	☐		

Topic 2: Registry and Surveillance

Goal

To establish procedures and identify resources for initiating a registry with information for all potentially affected people

Summary

Similar to PODs, a registry will need to be started at the CRC in order to contact people who require short-term medical follow-up or long-term health monitoring. The registry should collect basic contact information and radiation-related information, such as contamination measurements and distance from the incident, from all individuals who visited the CRC, first responders, public health workers, and medical staff that assisted with the response. Paper registries with data entered at a later time are a common option for CRC plans, as they require less trained staff. Tools such as the CRC Electronic Data Collection Tool (CRC eTool) and Agency for Toxic Substances and Disease Registry's (ATSDR) Rapid Response Registry can also be used to gather and assess data, although these electronic tools require more staff and training to utilize.

Action Steps

- Identify and develop forms and/or database to be used for registration
- Consider confidentiality and liability issues associated with registering, consulting legal personnel if necessary
- Determine who will have access to registry data, how it will be stored securely, and how it will be archived

Resources

- Registration Form Example
- ATSDR Rapid Response Registry Website
- CRC eTool Information
- Emergency Responder Health Monitoring And Surveillance (ERHMS)™ website

	Similar to POD Plan	CRC Plan Components	Notes
Registration Checklist			
Database Used	☐		
Information Collected	☐		
Confidentiality Measures	☐		
Staff with Access	☐		

Topic 3: Communications

Goal

To determine a communication strategy and draft tailored messages that address public concerns about radiation

Summary

Similar to emergencies requiring POD activation, communication is key for providing instructions and health-related information to the public and medical professionals. Messages should be drafted for multiple communication channels, including television, radio, websites, social media, email and text messaging alerts in order to increase the likelihood they will reach the public if a radiation emergency eliminates some channels. Messages should consider the needs of populations with access and functional needs. Radiation is not well understood by most people, making communication especially challenging. Information needs during radiation emergencies involve determining risk of contamination and protective actions for reducing health risks, including self-decontamination. Messages should be developed ahead of time and during response and tailored based on amount of time since the incident occurred, distance from incident, and by the medium used for message delivery.

Action Steps

- Identify and train key spokespersons in the community who can help deliver media announcements
- Connect with jurisdiction's Emergency Operations Center to determine the specific public health role and key personnel for the Joint Information Center (JIC)
- Collaborate with surrounding communities to determine how to reestablish communication infrastructure in the case it is damaged during the incident
- Develop pre-scripted communication messages that can be quickly and easily adapted in an emergency
- Establish relationships with the media to help facilitate communication during a radiation emergency

Resources

- Communicating Radiation Risk
- Nuclear Explosion Messages
- CDC's Crisis and Emergency Risk Communication (CERC) Website
- Guidance on Developing Effective Radiological Risk Communication Messages
- Improvised Nuclear Device Response and Recovery: Communicating in the Immediate Aftermath

Communications Checklist			
	Similar to POD Plan	**CRC Plan Components**	**Notes**
Key Spokesperson(s)	☐		
Key Communication Personnel	☐		
Media Channels	☐		
Messaging Themes	☐		

Main Operational Components

The main operational components of a CRC include the sites used, stations included and their flow, the staff needed, and equipment requirements. Plans for these operational components need to be flexible and scalable to the radiation incident.

Topic 4: CRC Sites

Goal

To determine appropriate spaces or facilities within the community to serve as CRCs during a radiation emergency

Summary

Similar to many events requiring POD activation, CRCs should be operational 24 to 48 hours after an incident. However, unlike PODs, CRCs should be located outside of the affected area. Potential sites should be assessed based on their size, location, restroom facilities, disability accommodations, and adequate access and exit control. Sometimes, the same facilities used for PODs can be used for CRCs with some additional resources and special considerations. For example, CRCs should ideally have shower or decontamination facilities. Due to the potential for many people to be displaced in the case of a radiation emergency, CRC sites should be located near shelters when possible.

Action Steps

- Identify current locations for PODs, alternate care sites (ACS), and neighborhood emergency help centers (NEHC)
- Assess location for adaptability to CRC requirements, including necessary stations and radiation equipment
- Obtain a written agreement, such as a memorandum of understanding (MOU), for use of the facility as a CRC site owner/operator
- Obtain floor plans for CRC facilities and/or copy floor plans from POD plans into the CRC plan for existing POD sites
- Collaborate with partner organizations, such as the American Red Cross and radiation control authorities, to ensure locations will be easily accessible to those in shelters
- Determine potential number of CRCs to open by considering population size of nearby cities and resources available in jurisdiction
- Identify local laws or regulations related to usable sites and runoff from decontamination units or showers

Resources

- *Population Monitoring in Radiation Emergencies, 2nd Edition*. Appendix F.
- *A Guide to Operating Public Shelters in a Radiation Emergency.* Sections 1.6 and 3.0.
- *Nationwide Response Issues After an Improvised Nuclear Device Attack: Medical and Public Health Considerations for Neighboring Jurisdictions: Workshop Summary*

CRC Site Checklist

	Similar to POD Plan	CRC Plan Components	Notes
Facilities	☐		

Facility Characteristics Table

For each site characteristics listed, check the box to indicate whether the site meets the characteristic. You may add as many items as needed for additional characteristic considerations.

Facility	*Facility 1*	*Facility 2*	*Facility 3*	*Facility 4*
Large size	☐	☐	☐	☐
Adequate restroom facilities	☐	☐	☐	☐
Shower/decontamination facilities	☐	☐	☐	☐
Accommodations for persons with access and functional needs	☐	☐	☐	☐
Adequate access and exit control	☐	☐	☐	☐
Enter additional characteristics for consideration	☐	☐	☐	☐

Topic 5: Stations

Goal

To determine the stations that will be included in each CRC and the flow clients will take through each of the stations

Summary

The operational concepts behind stations are similar to a POD, as those affected will enter the CRC and be directed through stations to receive the appropriate care in a timely manner. While some stations, such as greeting, sorting, and discharge will be similar to those in a POD, CRCs include stations for contamination screening and decontamination that are unique to radiation incidents. An important distinction between the stations in PODs and CRCs is that the CRC will need to be divided into the **Contamination Control Zone** and **Clean Zone**. Station positioning and flow will need to be carefully considered to minimize potential for cross- or re-contamination between the contamination control and clean zones. Find information on CRC stations in Appendix A.

Action Steps

- Identify stations in POD plan and compare to the CRC stations listed above
- Determine station flow and positioning, considering contamination control and clean zones using the site floorplans, POD flowcharts and example CRC flowcharts
- Establish strategy and protocols for separating contaminated and clean areas of the CRC
- Determine the necessary staffing and supplies to run each station

Resources

- CRC Flowchart
- Virtual Community Reception Center (vCRC)
- Job Action Sheets
- Population Monitoring for Radiation Emergencies: Appendix F

Stations Checklist			
Station	**Similar to POD Plan**	**Role of Station in CRC Plan**	**Notes**
Greeting and Initial Sorting	☐		
First Aid	☐		
Contamination Screening	☐		
Wash Station	☐		
Registration	☐		
Radiation Dose Assessment	☐		
Discharge	☐		
Pet & Service Animal Station	☐		

Topic 6: Staffing and Training

Goal

To determine the numbers, types, and training protocols for staff who will serve in a CRC

Summary

Similar to a POD, staff with a variety of roles and training for each of these roles will be necessary for CRCs. Community reception center staff should be able to support contamination screening, field questions and address concerns, and provide information and instructions. While nontechnical and clinical staff are needed, a special consideration for CRCs is enlisting technical staff who are trained in the use of radiation detection equipment as well as staff who can assist with urine sample collection, packaging, and shipping for internal contamination assessment or further dose assessment at a laboratory. Radiation protection professionals employed by state and local governments are scarce, but there are many across the country that can be recruited from Citizen Corps, Medical Reserve Corps, or Emergency System for Advanced Registration of Health Professionals (ESAR-VHP). Additionally, personal protective equipment (PPE), such as gowns, gloves, facemasks, and dosimetry will be important for staff to protect them from potential contamination.

Action Steps

- Determine the type of staff needed to work each station in the CRC
- Determine the number of staff needed and flowrate, considering scalability for the size of the incident, using modeling software, such as CDC's Virtual Community Reception Center Website, CRC-STEP, and/or Real Opt CRC
- Identify radiation protection professionals in the community and resources for accessing them across the country
- Educate the following groups on population monitoring: (1) first responders, (2) elected officials and community stakeholders, (3) public information and communication specialists, (4) clinicians and hospital staff, (5) journalists and broadcasters, and (6) response volunteer organizations
- Develop just-in-time training plan for volunteers and public health workers in the CRC

Resources

- *Planning Guidance for Response to a Nuclear Detonation*: Chapter 5: Population Monitoring and Decontamination: page 114, Volunteer Radiation Professionals.
- *A Plan for Incorporating Local Volunteer Radiation Professionals into Existing Health Volunteer Programs:* pages 30-31, Model Volunteer Utilization and Deployment Plan.
- *Population Monitoring in Radiation Emergencies: A Guide for State and Local Planners.* Appendix H

Staff and Training Checklist			
	Similar to POD Plan	**CRC Plan Components**	**Notes**
Technical and Clinical Staff/Volunteers	☐		
Non-technical Staff/Volunteers	☐		
Training Considerations (ongoing)	☐		
Training Considerations (Just in Time)	☐		

Topic 7: Equipment and Supplies

Goal

To identify the type and amount of radiation-specific equipment and other supplies needed during a radiation emergency and how to attain each item

Summary

One major difference between PODs and CRCs is the need for radiation equipment and radiation professionals. External contamination screening devices include both portal monitors and handheld meters. Radiation control authorities will determine the specific types of radiation detection devices needed for an incident. Washing supplies include plastic bags for contaminated clothing, soap and water or moist wipes when water is scarce, and clean replacement clothing. Specialized equipment and supplies will be needed when testing individuals for internal contamination. PPE for staff in the contaminated areas of the CRC may include gloves, gown, face mask, safety glasses, dosimetry, and respiratory protection. The specific items needed at the CRC will be dependent upon the incident, resources available, and guidance from the jurisdiction safety officer. Planners should make arrangements with the state radiation control authority, emergency management officials, hazardous materials teams, external community partners, and other local agencies for determining and attaining the proper supplies and equipment.

Action Steps

- Identify equipment and supplies needed for each station in CRC, specified for size and type of incident
- Consult safety officer and/or radiation protection specialists to determine incident-specific supplies
- Determine differences in supplies needs between POD and CRC
- Establish procedures and partnerships for attaining and managing radiation equipment and supplies
- Edit "CRC Supplies Checklist" (page 19) or create checklist to track supplies needed and method of attainment

Resources

- vCRC List of Suggested CRC Supplies
- Radiation Detection Devices
- CRC-Simulation Tool for Evaluation and Planning

Checklist

- A suggested equipment and supplies checklist is located in Appendix C.

Topic 8: Demobilization

Goals

To determine procedures for closing a CRC and returning to normal jurisdiction operations following an incident

Summary

Proper demobilization of the CRC is important for maintaining safety of the community following the initial response. Demobilization should include decontamination, screening, and removal of equipment and supplies. Staff should remove PPE in accordance with established doffing procedures, be screened for contamination, and debriefed. Radiation levels in the facility should be close to pre-incident levels, with the specific acceptable levels determined by the state radiation control authority. Demobilization can begin when displaced residents are in suitable shelters or temporary housing after being screened for contamination.

Action Steps

- Establish background radiation levels prior to incident and continue to monitor throughout and after incident
- Establish protocol for when to deactivate a CRC
- Determine procedures for doffing PPE and removing equipment from the CRC after deactivation
- Develop waste management guidelines and consult with your jurisdiction's regulatory authority to ensure compliance with state and federal waste management and transportation regulations
- Ensure building is returned in condition agreed upon in agreements or contracts made with site owners

Resources

- *Key Planning Factors for Recovery from a Radiological Terrorism Incident*
- FEMA Demobilization Check-Out (ICS 221)
- Personal Protective Equipment. CHEMM (Chemical Hazards Emergency Medical Management).
- Health and Safety Guide for Protecting Responders Following a Nuclear Detonation: pages P1-P5, Appendix P: Personal Protective Equipment Overview.

Demobilization Checklist			
	Similar to POD Plan	**CRC Plan Components**	**Notes**
Decision / Indicators	☐		
Equipment and Supplies	☐		
Staff	☐		

Important Planning Considerations

Topic 9: Behavioral Health

Goal

To incorporate behavioral health and psychosocial care into CRC operations

Summary

Radiation events will require consideration of the behavioral and psychological health needs of those affected, first responders, CRC staff and others in the community. Similar to PODs, behavioral and mental health services should be provided at the CRC to augment preexisting services. Community reception center staff should be trained in psychological first aid to recognize and diffuse problems among clients and themselves. Radiation emergencies present unique mental and behavioral health risks for both those affected and first responders. Planners should identify some of the major behavioral health risks for the public and first responders due to the fear and misconceptions surrounding radiation and the high-stress environment within CRCs. Responders who are not accustomed to working in PPE may experience additional stress due to the protective measures. Behavioral health planners should account for this stressor when developing their response plans.

Action Steps

- Develop partnerships with and create list of behavioral and mental health specialists to serve on CRC staff
- Establish training for responders and CRC staff in psychological first aid
- Identify community resources and services from which clients can receive continued mental health care

Resources

- vCRC Discharge Station Summary
- Psychological First Aid in Radiation Disasters
- Enhancing Personal Readiness and Resilience for Radiation Disasters, Sections 10.5 and 10.6
- SAMHSA Disaster Technical Assistance Center
- Psychological First Aid for First Responders

	Similar to POD Plan	CRC Plan Components	Notes
Behavioral Health Considerations Checklist			
Behavioral/mental health staff	☐		
Training	☐		
Mental health staff placement	☐		
Behavioral/mental health counseling services referrals	☐		

Topic 10: Access and Functional Needs

Goals

To establish a plan of care for groups of individuals with access and functional needs

Summary

Like PODs, CRCs and radiological decontamination services will need to be accessible to those with access and functional needs. While all emergency plans should ensure that individuals with access and functional needs receive lawful and equal assistance before, during and after a disaster or public health emergency, there are some considerations that will be specific to radiation emergencies. For example, procedures will need to be established for minimizing cross-contamination for persons in wheelchairs. This may include wheelchair decontamination procedures and staff specializing in decontaminating individuals who are in wheelchairs or have other physical disabilities. There are also special considerations for children, such as decontaminating infants. Additionally, staff at the initial sorting station should seek out individuals that may have access and functional needs so that the appropriate services can be provided. Pregnant women, children, and those with contamination on the nose or mouth should be identified and prioritized for internal screening.

Action Steps

- Establish partnerships with community organizations who serve persons with access and functional needs that are able to provide assistance during an emergency
- Ensure communication messages are written in common languages spoken in the community in addition to English
- Determine procedures on how persons with access and functional needs will be prioritized and cared for at the CRC
- Identify important considerations for persons with pets and service animals

Resources

- [Emergency Planning for People with Access and Functional Needs Video](#)
- [vCRC Initial Sorting Station Summary](#)
- *[Public Health Workbook to Define, Locate, and Reach Special, Vulnerable, and At-risk Populations in an Emergency](#)*.
- *[Emergency Animal Decontamination Best Practices](#)*.

Considerations for Access and Functional Needs Checklist			
	Similar to POD Plan	**Components of CRC Plan**	**Notes**
Initial sorting/greeting	☐		
Additional Assistance	☐		
Partnerships	☐		
Languages	☐		

Appendices

Appendix A: Stations

The stations included at each CRC site may vary based on the jurisdiction, magnitude of the incident, and resources available. In order to properly conduct population monitoring, CRCs typically include the following stations:

- **Greeting and Initial Sorting:** staff will greet people entering the CRC and identify whether they are highly contaminated (through use of a handheld radiation detector or portal monitor), have an urgent medical need, require special assistance, or have already decontaminated before coming to the CRC, and direct them to the appropriate station

- **First Aid:** those with urgent medical needs are assessed, medically treated or sent to the hospital for treatment and screened for contamination

- **Contamination Screening:** people are monitored for radioactive contamination using a combination of partial and full-body screening techniques, and directed or escorted to the Wash Station if necessary

- **Wash Station:** People considered to be contaminated above a CRC-established screening criteria will be directed to individual showers/washes or be provided with wet wipes (if washing facilities are not available); and staff re-screen the individual to ensure they are decontaminated

- **Registration:** staff collect demographic and incident-specific information from people who have been screened and cleared to enter the Clean Zone

- **Radiation Dose Assessment:** specialized staff and equipment are required to screen people for potential internal contamination, assess radiation dose, collect urine samples, and assess need for treatment. This station is present only in more highly advanced CRCs and is not necessary to conduct basic CRC services.

- **Discharge:** staff provide information to those leaving the CRC

- **Pet & Service Animal Station:** pets and services animals are screened for contamination and owners or animal control wash contaminated animals
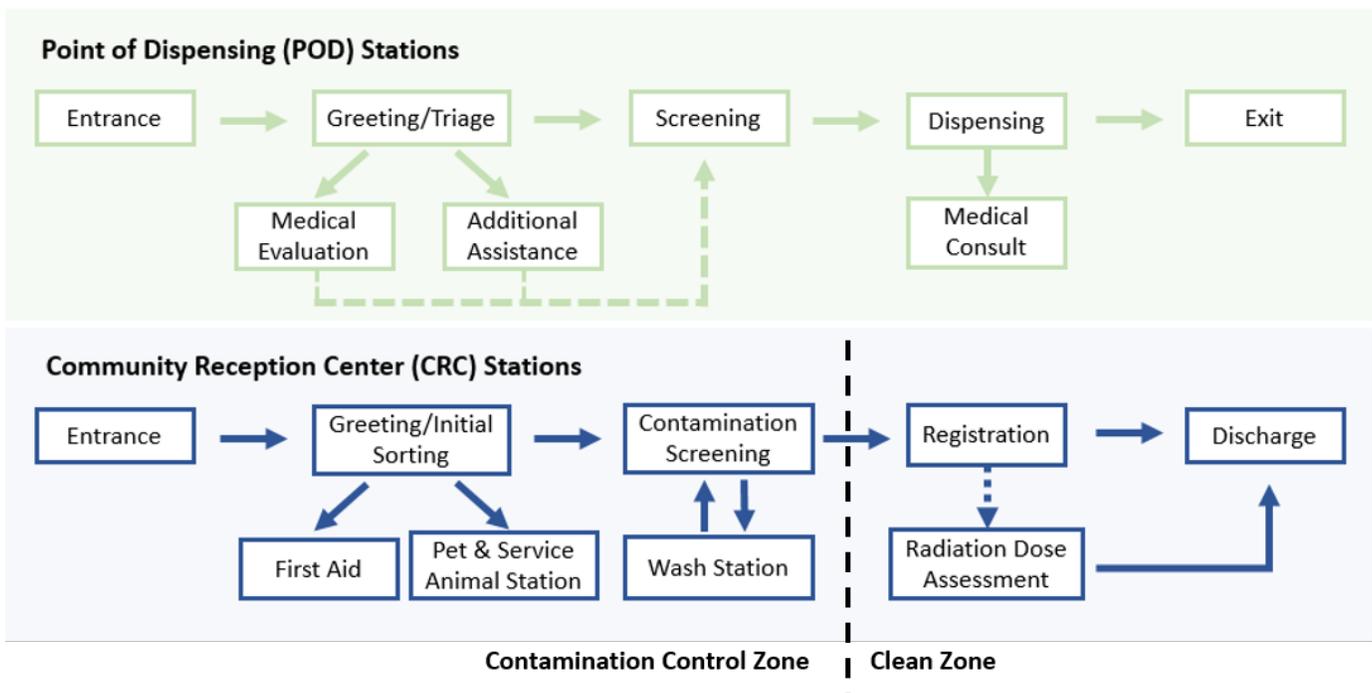
This diagram serves as an example of similar station flow concepts between PODs and CRCs and is not meant to serve as a model or indication of station functions. The green and blue dotted lines (---) indicate possible flow of clients through stations at a POD or CRC. The **black** dotted line indicates a separation between clean and contaminated zones in the CRC station diagram.

Appendix B: Synthesized Checklist

The table below provides an additional tool that you can use to condense the information from this document when drafting CRC plans. Please add or modify the information below to be specific to your jurisdiction's CRC plans.

Station	Staff/Volunteers	Equipment
Contamination Control Zone		
Greeting and Initial Sorting	☐ Community volunteers ☐ Health department staff (non-radiation) ☐ Security ☐ Other	☐ Personal Protective Equipment (i.e. gowns, gloves, facemask, dosimetry) ☐ Instructional signs and informational handouts ☐ Trash cans/bags to dispose contaminated items
First Aid	☐ Medical providers ☐ CPR and First-Aid Certified volunteers	☐ Personal Protective Equipment (i.e. gowns, gloves, facemask, dosimetry) ☐ Handheld monitoring equipment ☐ Medical equipment and supplies ☐ Cot and wheelchair
Contamination Screening	☐ Radiation protection professionals ☐ Public health staff ☐ Radiation Response Volunteers	☐ Radiation detection portal monitors ☐ Handheld radiation detection equipment ☐ PPE for workers ☐ Step off pads for entrance to clean zone ☐ Wristbands for clean individuals
Wash Station	☐ Radiation protection professionals ☐ Public health staff ☐ Trained volunteers	☐ PPE for workers ☐ Showers and shower crates ☐ Towels ☐ Moist wipes ☐ Wristbands for clean individuals ☐ Step-off pads ☐ Liquid soap ☐ Posters demonstrating proper decontamination ☐ Radiation detection equipment ☐ Bags for clothing and personal items ☐ Clothing for re-dressing
Pet Station	☐ Animal professionals ☐ Trained volunteers	☐ Liquid soap for pets ☐ Towels ☐ Posters demonstrating proper decontamination
Clean Zone		
Registration	☐ Public health staff ☐ Trained volunteers	☐ Tables/chairs for staff and arrivals ☐ Registration forms or laptops for data entry ☐ Signs and/or rope to direct arrivals and separate clean zone
Radiation Dose Assessment	☐ Public health staff ☐ Emergency services personnel ☐ Radiation protection professionals ☐ Trained volunteers	☐ Handheld radiation detection equipment or thyroid uptake scanners to screen for internal contamination ☐ Tables and chairs ☐ Biohazard sharps and disposal bins ☐ Medical supplies ☐ Forms/laptop for data entry
Discharge	☐ Medical providers ☐ Mental health providers ☐ Trained volunteers	☐ Discharge educational information sheets ☐ Tables and chairs for staff ☐ Signs and ropes to direct individuals

Appendix C: Suggested Equipment & Supplies Checklist

Use this checklist to determine how your jurisdiction will access supplies and equipment needed for a CRC. Headings indicate the types of items that will be needed to run a CRC while the items listed beneath offer specific suggestions. This checklist can be edited for your specific jurisdiction by deleting items you will not use or adding rows for additional items you will use that are not listed. Note: items will vary based on the incident and available resources; consultation with your jurisdiction's radiation specialists and safety officers is advised.

Equipment & Supplies	Held by [Local Org.]	Held by [State]	Held by External Partner	Signed MOU* Attained	Access to Item TBD*	N/A Item Not Used	Other/Notes
Items or Methods for Sorting Clients Upon Entry							
Signs to direct individuals	☐	☐	☐	☐	☐	☐	
Barriers (stanchions and rope)	☐	☐	☐	☐	☐	☐	
Radios for staff communication	☐	☐	☐				
Protective materials for covering floors and furnishings, such as butcher paper or plastic sheeting	☐	☐	☐	☐	☐	☐	
Folding chairs	☐	☐	☐	☐	☐	☐	
Drinking water (cups, if needed)	☐	☐	☐	☐	☐	☐	
Informational fact sheets	☐	☐	☐	☐	☐	☐	
Basic First Aid Supplies for Minor Injuries							
Basic first aid supplies (i.e., bandages, gauze, ice packs, medical tape)	☐	☐	☐	☐	☐	☐	
Defibrillator	☐	☐	☐	☐	☐	☐	
Cots	☐	☐	☐	☐			
Wheelchairs	☐	☐	☐	☐	☐	☐	
Biohazard disposal bin (for first aid items)	☐	☐	☐	☐	☐	☐	
Items/Methods for Screening Clients for External Contamination							
Just-in-time instructions for equipment use	☐	☐	☐	☐	☐	☐	
Geiger-Mueller (GM) pancake survey meters (α,β,γ)	☐	☐	☐	☐	☐	☐	
Handheld alpha contamination detectors (α)	☐	☐	☐	☐	☐	☐	
Beta/Gamma portal monitors (β,γ)	☐	☐	☐	☐	☐	☐	

* MOU: memorandum of understanding – a formal agreement between two parties. TBD: to be determined – items for which access still needs to be decided.

Equipment & Supplies	Held by [Local Org.]	Held by [State]	Held by External Partner	Signed MOU Attained	Access to Item TBD	N/A Item Not Used	Other/Notes
Personal Dosimeters (β,γ)	☐	☐	☐	☐	☐	☐	
Batteries for equipment	☐	☐	☐	☐	☐	☐	
Items for identifying clean individuals (i.e., wristbands, forms, etc.)	☐	☐	☐	☐	☐	☐	
Items for Screening Clients for Internal Contamination (for							
Urine sample collection kits	☐	☐	☐	☐	☐	☐	
Chain-of-custody documentation (for samples)	☐	☐	☐	☐	☐	☐	
Items/Methods for Decontaminating Clients with External Contamination							
Clean clothing items such as scrubs or coveralls	☐	☐	☐	☐	☐	☐	
Moist wipes or wet towels	☐	☐	☐	☐	☐	☐	
Lint brushes or tape for dry decontamination	☐	☐	☐	☐	☐	☐	
Plastic bags in a variety of sizes (for clothing and personal items)	☐	☐	☐	☐	☐	☐	
Labels for bagged clothing and personal possessions	☐	☐	☐	☐	☐	☐	
Showers with warm water	☐	☐	☐	☐	☐	☐	
Liquid soap and shampoo	☐	☐	☐	☐	☐	☐	
Anti-slip mats for shower area	☐	☐	☐	☐	☐	☐	
Clean towels	☐	☐	☐	☐	☐	☐	
Cleaning supplies for showers between uses	☐	☐	☐	☐	☐	☐	
Sinks/basins for partial-body decontamination	☐	☐	☐	☐	☐	☐	
Step off pads (tacky mats)	☐	☐	☐	☐	☐	☐	
Waterless hand cleaner	☐	☐	☐	☐	☐	☐	
Sanitary items (i.e., diapers)	☐	☐	☐	☐	☐	☐	
Shoes, sandals, shoe coverings	☐	☐	☐	☐	☐	☐	
Nail brushes	☐	☐	☐	☐	☐	☐	

Equipment & Supplies	Held by [Local Org.]	Held by [State]	Held by External Partner	Signed MOU Attained	Access to Item TBD	N/A Item Not Used	Other/Notes
Personal Protective Equipment (PPE) for Workers							
Plastic (vinyl, nitrile) examination gloves	☐	☐	☐	☐	☐	☐	
Surgical masks	☐	☐	☐	☐	☐	☐	
N-95 masks[†]	☐	☐	☐	☐	☐	☐	
Disposable shoe covers	☐	☐	☐	☐	☐	☐	
Scrubs	☐	☐	☐	☐	☐	☐	
Coveralls or waterproof surgical gowns	☐	☐	☐	☐	☐	☐	
Face shields	☐	☐	☐	☐	☐	☐	
Duct and masking tape	☐	☐	☐	☐	☐	☐	
Items for Decontaminating Pets/Service Animals							
Separate cages/areas for holding contaminated and clean animals	☐	☐	☐	☐	☐	☐	
Mild animal shampoo	☐	☐	☐	☐	☐	☐	
Wet wipes or towels	☐	☐	☐	☐	☐	☐	
Bags for contaminated towels and fur	☐	☐	☐	☐	☐	☐	
Muzzles	☐	☐	☐	☐	☐	☐	
Identification tags	☐	☐	☐	☐	☐	☐	
Items/Methods for Registering CRC Clients							
Registration forms	☐	☐	☐	☐	☐	☐	
Educational materials for clients	☐	☐	☐	☐	☐	☐	
Computers and internet connectivity	☐	☐	☐	☐	☐	☐	
Photocopiers or scanners	☐	☐	☐	☐	☐	☐	
Tables and chairs	☐	☐	☐	☐	☐	☐	
Items for Outdoor CRC Facilities							
Generator and fuel	☐	☐	☐	☐	☐	☐	
Portable sinks, tubs, toilets	☐	☐	☐	☐	☐	☐	
Water supply	☐	☐	☐	☐	☐	☐	
Trailers and/or tents	☐	☐	☐	☐	☐	☐	

[†] Require fit testing

Appendix D: Resources / Bibliography

ATSDR's Rapid Response Registry Website
The Rapid Response Registry Website offers information on using and accessing the instrument. This instrument is a two-page form that can be distributed on paper or electronically that collects basic information such as demographics, health information, and exposure-related information. Planners can use the information on this website to determine whether this is the best instrument to use within their jurisdiction and identify how to incorporate it into their CRC plans. It can be accessed at https://www.atsdr.cdc.gov/rapidresponse/index.html.

Communicating Radiation Risks: Crisis Communications for Emergency Responders. September 2007
This guide was developed by the Environmental Protection Agency for emergency responders and federal, state, and local officials communicating with the public and media during radiological emergencies. The guide offers pre-approved messages for use in a radiation emergency, information on how to be an effective communicator, what to expect and potential questions for radiation scenarios, and additional resources for building communication skills. It can be accessed at *https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=500025HA.TXT*.

CRC eTool Website
The CRC eTool, or Community Reception Center Electronic Data Collection Tool, is designed to collect, analyze, visualize, and securely exchange population monitoring data using Epi Info, a free platform for data analysis. This website includes an overview of the tool and how to access it. Planners can use this website for accessing the tool, determining if it is the best registration option for their jurisdiction, and identifying how to incorporate it into their CRC plans. It can be accessed at https://emergency.cdc.gov/radiation/crcetool.asp.

CRC Flow Chart
The CRC Flow Charts were developed by CDC in partnership with Oak Ridge Associated Universities (ORAU) to provide a basic overview of CRC stations and how individuals will move throughout the CRC, based on certain conditions. It can be used as a visual aid to gain a high-level overview of population monitoring through a CRC. It can be accessed from https://www.orau.gov/rsb/CRCoverviewVideo/resources/CRCFlowChart-DeskReference.pdf.

CRC Simulation Tool for Evaluation and Planning (CRC-STEP)
The CRC-STEP Software helps emergency planners determine the best process flow, resource utilization, and staffing for CRC operations in a radiation emergency. An introduction to the tool can be found at https://orau.gov/rsb/step/.

Crisis and Emergency Risk Communication (CERC) Website
CDC's CERC website offers manuals, tools, presentations, and other training resources for public health professionals to develop effective communication plans during an emergency. Planners can explore this website to identify resources that can assist them with their overall communications plan for a radiation incident. It can be accessed at https://emergency.cdc.gov/cerc/resources/index.asp.

A Decision Maker's Guide: Medical Planning and Response for a Nuclear Detonation. Second Edition. November 2017
This guide was developed by the Office of the Assistant Secretary for Preparedness and Response (ASPR) for planners, administrators, emergency managers, government officials, and upper-level policy and decision-makers in Federal, State, local, tribal, and territorial public health. This Manual aims to assist preparedness efforts and decision making by providing readily accessible information that quickly describes critical scientific and medical aspects of a nuclear incident as well as the response organization and resources anticipated to be required or available during a response. It is available from https://www.remm.nlm.gov/IND_Decision_Makers_Guide_2017_guides.pdf.

Emergency Planning for People with Access and Functional Needs

This one-hour video by the Chemical Stockpile Emergency Preparedness Program is intended to introduce emergency planners and public officials to issues and concerns to be considered in planning for people with access and functional needs. Though it is not intended to provide instructions on how to write an emergency plan, planners can watch this video for background information on how plans can be written to include persons with access and functional needs. It can be accessed at https://www.youtube.com/watch?v=ZsFEG3QaCJ8.

Emergency Responder Health Monitoring and Surveillance (ERHMS)™

CDC's National Institute of Occupational Safety and Health (NIOSH) developed the ERHMS framework for protecting emergency responders in any setting. An accompanying software ERHMS Info Manager™ was also developed to be used for implementing this framework. More information on the framework and software is available on CDC's website here: https://www.cdc.gov/niosh/erhms/default.html.

Enhancing Personal Readiness Resilience for Radiation Disasters: A Guide for All Citizens

The American Medical Association prepared this document to provide individual citizens with critical medical and mental health information related to radiation emergencies. Sections 10.5 and 10.6 can help planners consider some of the mental health challenges that will need to be addressed in their CRCs. It can be accessed at https://www.radiationready.org/posted-tools/enhancing-personal-readiness-and-resilience-for-radiation-disasters-a-guide-for-all-citizens/

FEMA's Demobilization Check-Out (ICS 221)

This form was developed by FEMA to ensure that resources checking out of the incident have completed all appropriate incident business and assists with the planning of the demobilization process. Planners can include information on this form in the recovery section of their CRC plans. It can be accessed at https://www.fema.gov/media-library-data/20130726-1922-25045-5053/ics_forms_221.pdf.

Guidance on Developing Effective Radiological Risk Communication Messages

The United States Nuclear Regulatory Commission created this document for nuclear power plant licensees and local response organizations. It guides users through message mapping, or anticipating questions and developing consistent responses. Much of the information offered throughout this guide can be used by planners to develop CRC communications plans. It can be accessed at https://www.nrc.gov/docs/ML1104/ML110490120.pdf.

A Guide to Operating Public Shelters in a Radiation Emergency. February 2015

CDC and NACCHO led the development of this guide and received input from several federal and state partners as well as ORAU. It was created for the purpose of assisting shelter operators, emergency managers, public health professionals, and radiation protection professionals who participate in shelter planning. The guide provides information on the incident-specific considerations that shelter operators will need to take into account in a radiation emergency. It is available from https://emergency.cdc.gov/radiation/pdf/operating-public-shelters.pdf#page=8.

Health and Safety Guide for Planners, Safety Officers, and Supervisors for Protecting Responders Following a Nuclear Detonation. December 2016

This guidance document was developed by the Division of Homeland Security and their partners to assist in the preparation for health and safety management in the event of an event involving an improvised nuclear device (IND). Intended for planners, safety officers, and supervisors, CRC planners can use this guidance for incorporating responder safety into the CRC plans, particularly personal protective equipment (PPE) considerations, outlined in Appendix P of this document. It is available from https://www.dhs.gov/publication/ind-health-and-safety-planning-guide

Improvised Nuclear Device Response and Recovery: Communicating in the Immediate Aftermath

FEMA developed this document with the intent to aid responders in providing information and life-saving instructions to the public in the immediate aftermath, or first 72 hours, of an Improvised Nuclear Device (IND) detonation. Planners can use this document to identify the necessary messages to include in their CRC plans. It can be accessed at https://www.fema.gov/media-library/assets/documents/33036?id=7659.

Job Action Sheets

These job action sheets were provided so that planners could gain a better understanding of the staff requirements and processes taking place at each station. They were provided by CDC's and ORAU's vCRC tool and are accessible at https://www.orau.gov/rsb/vcrc/help.html#Resources.

A Map of Radiation Control in the United States

This resource is offered by the Conference of Radiation Control Program Directors (CRCPD). This is a map that highlights the locations of radiation control programs throughout the United States. Planners can identify radiation professionals and resources from their state using this tool. It can be accessed at https://www.crcpd.org/mpage/Map.

Nationwide Response Issues After an Improvised Nuclear Device Attack: Medical and Public Health Considerations for Neighboring Jurisdictions: Workshop Summary

This article outlines the public health and logistical considerations for an IND response. This was an excerpt from an Institute of Medicine Publication on the proceedings of a radiation response workshop. Planners can use this resource to bolster their knowledge of planning considerations, particularly when planning for numbers of CRC sites and contaminated persons through using this article's proposed zoned approach model. https://www.ncbi.nlm.nih.gov/books/NBK184322/

Nuclear Explosion Messages

The National Alliance for Radiation Readiness offers this resource with pre-made messages for addressing the public's most common questions in the case of a nuclear weapon explosion. Planners can use this resource to write in pre-made messages to include in communications for directing individuals to and at the CRC. It can be accessed at https://www.radiationready.org/posted-tools/centers-for-disease-control-and-prevention-public-messaging-templates/

A Plan for Incorporating Local Volunteer Radiation Professionals into Existing Health Volunteer Programs to Assist in Population Monitoring. March 2011

This document was developed by the Conference of Radiation Control Program Directors, Inc. (CRCPD) and prepared for the CDC. It outlines the findings from a project for recruiting radiation professionals for population monitoring and offers best practices and a model plan for establishing a radiation professional volunteer base, or volunteer radiation response corps. It can be found at https://www.radiationready.org/posted-tools/a-plan-for-incorporating-local-volunteer-radiation-professional-into-existing-health-volunteer-programs-to-assist-in-population-monitoring/

Planning Guidance for Response to a Nuclear Detonation. Second Edition. June 2010

This guide was developed by the National Security Staff Interagency Policy Coordination Subcommittee for Preparedness and Response to Radiological and Nuclear Threats, which was led by the Executive Office of the President. The purpose of this guide is to provide emergency planners with nuclear detonation-specific response recommendations to maximize preservation of life in the event of an urban nuclear detonation. It can be accessed from http://www.centerforhealthsecurity.org/our-work/interactives/rad-resilient-city/references/05PlanningGuidanceNuclearDetonation.pdf.

Population Monitoring in Radiation Emergencies: A Guide for State and Local Public Health Planners, Second Edition. April 2014

This guide was developed by the CDC's National Center for Environmental Health. It is intended for public health and emergency preparedness planners as an introduction to population monitoring in radiation emergencies. *Population*

Monitoring in Radiation Emergencies provided the basis for the information presented in this guide. It can be accessed from: https://emergency.cdc.gov/radiation/pdf/population-monitoring-guide.pdf.

Psychological First Aid for First Responders
This brochure developed by SAMHSA provides a brief overview on how first responders can promote safety, self-efficacy, and connectedness among those who are impacted by a disaster. Planners can use this resource for incorporating behavioral health considerations into their plans. It is available at https://store.samhsa.gov/product/Psychological-First-Aid-for-First-Responders/NMH05-0210.

Psychological First Aid in Radiation Disasters
This online training developed by CDC provides information on the psychological consequences of radiation emergencies. Its intended audience is public health officials, planners, clinicians, volunteers, and educators involved in planning for mass casualty radiation emergencies. It is available at https://www.orau.gov/rsb/pfaird/01-introduction.html

Public Health Workbook to Define, Locate, and Reach Special, Vulnerable, and At-risk Populations in an Emergency
This resource was developed by CDC to help planners define, locate, and reach at-risk populations in an emergency through use of inclusive communication planning. Planners can use this resource to help with their communications plans to ensure they will reach persons with access and functional needs. It can be accessed at https://emergency.cdc.gov/workbook/pdf/ph_workbookFINAL.pdf.

Radiation Detection Devices
This webpage is on the Radiation Emergency Medical Management website produced by the Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response, Office of Planning and Emergency Operations, in cooperation with the National Library of Medicine, National Cancer Institute, and Centers for Disease Control and Prevention. The purpose of the website is to provide guidance for health care providers about diagnosis and treatment of radiation injury and offers information on a wide range of radiation-related topics. The webpage on radiation detection devices is located at https://www.remm.nlm.gov/civilian.htm.

Radiation Planning Annex Template for Local Health Departments. July 2011
This resource was developed by the National Association of County and City Health Officials (NACCHO) as a customizable template to an all-hazards Emergency Operations Plan that is specific to radiation incidents. The template outlines the potential roles for local public health in a radiation emergency and offers additional resources. It is available at http://www.radiationready.org/posted-tools/radiation-planning-annex-template-for-local-health-departments/.

Registration Form Example
This form was developed by ORAU as an example for planners to use in their CRC plans. It includes the basic information that planners should consider for their registries. It can be accessed at https://orau.gov/rsb/vcrc/application/Resources/Forms/CRCRegistrationForm.doc.

SAMHSA's Disaster Technical Assistance Center (DTAC)
The Substance Abuse and Mental Health Services Administration (SAMHSA) DTAC assists states, territories, tribes, and local entities with all-hazards disaster behavioral health response planning. SAMHSA DTAC also supports collaboration among mental health and substance abuse authorities, federal agencies, and nongovernmental organizations. Planners can use the resources on their website for incorporating behavioral health care into CRC plans. It can be accessed at https://www.samhsa.gov/dtac/about.

Virtual Community Reception Center (vCRC). December 2011
The Virtual Community Reception Center was developed by CDC and ORAU to provide users with an orientation to CRC operations. The vCRC is a web-based training tool that provides an overview of the CRC process for planners, managers, and potential CRC staff. It is available from https://www.orau.gov/rsb/vcrc/.

vCRC Discharge Station Summary

ORAU provides a summarized description of the discharge station at a CRC. Planners can use this summary to start considering which staff, supplies, and other resources to include at that station. It is available at https://www.orau.gov/rsb/vcrc/application/Resources/ExecutiveSummaries/DischargeExecSum.doc.

vCRC Initial Sorting Station Summary

ORAU's description of the initial sorting station provides an overview to planners of how to direct individuals entering the CRC, including those with access and functional needs. It can be accessed at https://www.orau.gov/rsb/vcrc/application/Resources/ExecutiveSummaries/InitialSortingExecSum.doc.

vCRC List of Suggested CRC Supplies

This excel document was developed for CDC's and ORAU's vCRC and offers a list of recommended supplies for each station at a CRC. It can be used by public health planners as a starting point for determining supplies needs to include in their CRC plans. It can be found at https://www.orau.gov/rsb/vcrc/help.html#Resources.