BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE TACTICS, TECHNIQUES, AND PROCEDURES 3-42.32

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Tactical Doctrine

HOME STATION MEDICAL RESPONSE TO CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR (CBRN) INCIDENTS

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PURPOSE: The Air Force Tactics, Techniques, and Procedures (AFTTP) 3-42 series of publications is the primary reference for medical operations. This document, AFTTP 3-42.32, provides tactics, techniques and procedures (TTP) for home station medical commanders to plan, prepare, and employ their assigned assets to respond to chemical, biological, radiological, and nuclear (CBRN) incidents. In particular it addresses medical responses utilizing an all hazards approach but is specific to those Medical Contingency Response Program (MCRP) teams that are provided funded equipment sets for Home Station Medical Response. These incidents include weapons of mass destruction (WMD) as well as incidents involving the accidental or intentional spill or release of hazardous materials (HAZMAT) and toxic industrial materials (TIMs). This AFTTP provides the individual concepts of operations (CONOPS) for the following Medical Counter-CBRN (MC-CBRN) capabilities: Patient Decontamination Team, Pharmacy Team, Bioenvironmental Engineering (BE) Team, Laboratory Biological Detection Team (LBDT), Field Response Team (FRT), Triage Team, Clinical Team, Nursing Services, Manpower/Security Team, and Public Health (PH) Team. **Note:** The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES: This document has been substantially revised and must be completely reviewed. The TTP incorporates changes necessary to align with recent updates to AFI 41-106 and AFI 10-2501. Removed information on roles and responsibilities above the level MTF commander. It incorporates recent development of Public Health 886 Allowance Standard, addresses emerging infectious disease (EID) and medical counter measures to CBRN threats. Updated medical response information and guidance utilizing an all-hazard approach when responding to CBRN incidents. Added and updated HAZMAT first receivers awareness and operations level training requirements. Attachment 10 Added Sort- Assess- Lifesaving Interventions- Triage/Treatment (SALT) Triage System as an additional systematic methods for

rapid assessment and categorization of casualties. Removed information that is referenced in other Air Force or DOD guidance.

APPLICATION: This publication applies to all Air Force military and civilian personnel. Air National Guard (ANG) units not collocated with active duty (AD) units will employ only the Patient Decontamination (976A), BE (976H), Triage (976K), and PH (976P) allowance standards. In accordance with (IAW) Air Force Instruction (AFI) 41-106, *Medical Readiness Program Management*, ANG units are not required to publish a Medical Contingency Response Plan (MCRP). All planning for the ANG MC-CBRN capabilities will be included in each wing's Installation Emergency Management Plan (IEMP). Air Force Reserve Command (AFRC) BE offices are part of base operations support (BOS) and not the medical unit. AFRC will execute the requirements of this AFTTP related to BE and PH responsibilities and the 886H package within the restraints of civilian personnel responsibilities. Some ANG and AFRC installations may not possess the inherent capabilities to provide the response outlined in this publication.

SCOPE: This AFTTP provides essential guidance for Air Force Medical Service (AFMS) personnel's initial response utilizing an all-hazards approach to respond to an incident involving the intentional or accidental release of CBRN. The ability to respond appropriately is critical to mitigating the consequences of an event. Medical commanders must be aware of the necessary steps to ensure maximum survivability and to safeguard mission capabilities. The doctrine in this document is authoritative but not directive.

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INTRODUCTION

1.1. Purpose. Chemical, biological, radiological, and nuclear (CBRN) incidents can quickly overwhelm medical units at Air Force medical treatment facilities (MTFs) and can pose significant threats to all Air Force installations worldwide. This publication provides guidance for medical units to plan, prepare, and employ assigned assets for the *initial response* to an incident involving CBRN, utilizing an all–hazards approach at home stations (i.e., fixed-site airbases). Additionally, it establishes a manning and equipment framework to guide resource allocation. *Initial response,* as used in this AFTTP, is considered the initial phases after an event has occurred or been detected. Initial response includes crisis and CBRN consequence management designed to rescue and stabilize casualties, contain contamination, and preserve evidence. Air Force Reserve Command (AFRC) medical units are exempt from this AFTTP with the exception of bioenvironmental engineering (BE) capabilities. See Chapter 17 for more information on AFRC responsibilities.

1.2 Air Force Guidance. First response to a home-station CBRN event is governed by Air Force Instruction (AFI) 10-245, *Antiterrorism (AT)*; AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*; Air Force Manual 10-2503, *Operations in a Chemical, Biological, Radiological, Nuclear, and High-yield Explosive (CBRNE) Environment*; AFI 41-106, *Medical Readiness Program Management;* AFI 41-209, *Medical Logistics Support;* and Air Force Policy Directive (AFPD) 10-26, *Counter-Chemical, Biological, Radiological, and Nuclear Operations.*

1.2.1. Emergency Management and Response Plans. Installation response to a local CBRN event is deliberately planned for in the Installation Emergency Management Plan (IEMP) 10-2. Each installation must identify its threats, vulnerabilities, and response capabilities and plan accordingly. This AFTTP provides the planning and organizing framework for addressing Medical Counter-CBRN (MC-CBRN) response in the MCRP and the installation's IEMP 10-2.

1.2.2. Guidance for Deployed Environments. Medical CBRN response in deployed environments, which is not covered by this AFTTP, is governed by FM 4-02.7/MCRP 4-11.1F/NTTP 4-02.7/AFTTP 3-42.3, *Multiservice Tactics, Techniques, and Procedures for Health Service Support in a Chemical, Biological, Radiological, and Nuclear Environment*.

1.3. Planning Considerations. A large CBRN incident may rapidly overwhelm a medical unit's capabilities and capacities to respond effectively. The medical unit must still plan for closed-base operations without assistance in the early phases of an incident when augmenting capability may be unable to assist. This may be up to 96 hours without adequate augmentation, though each medical unit must consider local threats, capabilities and conditions when planning early phase duration. State and federal resources will normally be available 24 hours after a request for assistance. In the event of a large-scale incident affecting the surrounding civilian population, local resources may be delayed or unavailable. Local medical facilities may also be overwhelmed. For locations outside the continental United States (OCONUS), U.S. government

resources may be delayed more than 24 hours. Host nation resources may be available to assist OCONUS locations, depending on status of forces agreements (SOFAs). Access to host nation resources requires coordination through the military chain of command and U.S. Department of State officials, which may delay response. In planning for the medical response to a CBRN event, the medical unit commander and staff must understand the assessed vulnerabilities and the anticipated consequences associated with each of the threats discussed in this AFTTP. Medical units shall prepare response capabilities based on the assumption that the medical unit may not initially receive outside assistance and may have to sustain operations for up to 96 hours with minimal assistance (e.g., no access to the Strategic National Stockpile [SNS]). This planning will be addressed in unit-specific MCRPs in Annex P – Medical Continuity of Operations (MCOOP).

1.4. Chemical, Biological, Radiological, and Nuclear (CBRN) Threat. CBRN agents can be used at any time, against any target, and by various delivery methods. CBRN delivery methods include, but are not limited to: aircraft sprayers, missiles, trucks, artillery, smoke/mist grenades, backpack sprayers, mail packages, hand-carried containers (such as briefcases), and vials that might be used to contaminate food sources or other environmental surfaces. Air Force installations may be similar to industrial complexes where the potential for an accidental or incidental spill or release of a harmful chemical poses a risk to the health of the populace as well as the environment. The release of CBRN agents, whether intentional or accidental can cause catastrophic property damage, overwhelming numbers of injuries, and the loss of lives. However, the mere threat of a CBRN event can cause anxiety and panic that may threaten mission effectiveness. CBRN incidents may result in an inordinate number of people who seek treatment believing they have a particular disease or exposure even though they are physically well (also referred to as the worried well), as well as other psychiatric casualties. Historically, CBRN incidents result in an approximately 7:1 ratio of psychiatric casualties to casualties directly resulting from the incident. Medical personnel and planners should address these psychological concerns along with medical issues for planning, prevention, and crisis management.

1.4.1. Chemical Warfare. Chemical warfare (CW) agents are grouped into four types: nerve, blood, blister, and choking agents. For homeland security purposes, planners should also consider all hazardous materials (HAZMAT) to include toxic industrial chemicals and materials (TIC/TIMs). Heavy industry located off the installation, hazardous cargo transported near the installation, and HAZMAT stored on the installation should all be considered as potential threats. The bioenvironmental engineer (BEE) should work with civil engineering (CE) emergency management planners to assess and analyze HAZMAT (TIC/TIM) vulnerabilities. They should also consider that terrorists might attack or use these areas to create a catastrophic event.

1.4.2. Biological Warfare. Biological warfare (BW) agents include bacteria, viruses, and toxins. BW agents can be employed by a terrorist to produce mass casualties, disrupt air operations, or create fear and confusion. These actions have the potential to significantly burden or even overwhelm medical assets. Widespread and sporadic BW attacks would force a protective posture, thereby degrading operational effectiveness. For example, the limited anthrax attacks through the U.S. Postal Service in October and November 2001

caused widespread uncertainty and drained sampling, analysis, and identification resources. Consider food, water, and other means of agent delivery when making threat and vulnerability analyses. BW agents are highly versatile and adaptable. For example, spraying salmonella on a salad bar where Air Force personnel eat could render an entire organization incapable of performing its mission. Due to their vulnerability, intentional contamination of the installation's food and water supply is one of the most likely methods for delivering a biological agent attack

New technology and coordinated response plans deployed since the anthrax attacks of 2001 have dramatically improved response time. In mid-March 2003, local authorities were notified by U.S. marshals of the imminent arrival of two suspicious envelopes addressed to a bomb wing commander. The envelopes arrived and one envelope contained a fine white powder. The disaster response force team of the bioenvironmental and fire department staff deployed to the local post office. The team followed plan guidelines to evacuate and barricade the area in the post office that contained the envelopes.

In only one and a half hours, the response team was able to determine with 99 percent confidence that the white powdery substance was non-dairy creamer. The commanding officer then declared the scene safe. There was no impact on the intended target (the bomb wing) and minimal disruption of the local post office. The incident demonstrates the remarkable improvements that can be achieved with a planned response and the appropriate resources.

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1.4.3. Radiological Threats. A radiological dispersion device (RDD) is any device that causes purposeful dissemination of radioactive material without a nuclear detonation. One method of dispersion might be a dirty bomb where radioactive material is attached to an explosive and detonated. The explosion produces radioactive and nonradioactive shrapnel and radioactive dust and can cause radiological contamination, radiation exposure (in certain circumstances), physical injuries, burns, panic, and fear. A radiological exposure device (RED) is one that uses a source placed or hidden in a strategic location to deliberately expose personnel and cause damage or disruption. Other dispersal methods might include passive or active dispersion of unsealed radioactive sources, such as deposition in soil or water or dispersion from an airborne device.

1.4.4. Nuclear Threats. A nuclear weapon detonation, blast, or explosion involves fission or fusion of atoms. A nuclear blast releases massive amounts of energy (measured in kilotons), which are dissipated as a fireball, blast forces (waves), prompt radiation, light and heat (thermal) energy, and delayed ionizing radiation (fallout). A nuclear weapon explosion results in catastrophic loss of life, destruction of infrastructure, and contamination of a very large area. An improvised nuclear device (IND) produces the same physical and medical effects as a nuclear weapon explosion. Contact the installation radiation safety officer (IRSO) for more information about nuclear threats.

1.5. Medical Counter-CBRN (MC-CBRN) Response Capabilities. AFMS personnel must be prepared for an incident involving CBRN on their home stations and be prepared to respond. Medical units will maintain CBRN response capabilities organically within the medical organization or through written agreements (e.g., mutual aid agreements [MAAs], memorandums of agreement [MOAs] and memorandums of understanding [MOUs]) with other organizations in the local area, or through a combination of these methods. The 886 allowance standards (AS) provide the equipment and supplies needed for a CBRN response using an all hazards approach. (See Chapters 7-15 for more information about each capability, Chapter 16 for ANG concept of operations [CONOPs], and Chapter 17 for AFRC CONOPs.)

AS	Team
886A	Patient Decontamination
886D	Nursing Services
886E	Pharmacy
886H	Bioenvironmental Engineering
886I	Laboratory Biological Detection
886J	Field Response
886K	Triage
886L	Clinical
886M	Manpower/Security
886P	Public Health

1.5.1. Allowance Standards. The 886 allowance standards provide medical equipment and supplies to manage up to 300 casualties (100 for ANG units); pharmaceuticals to treat up to 300 CBRN casualties (not applicable to ANG units); equipment and supplies to decontaminate up to 100 CBRN contaminated casualties; personal protective equipment (PPE) and pharmaceutical countermeasures to protect 150 emergency responders and first receivers (not applicable ANG units); and detection and monitoring equipment to detect, sample, and identify CBRN agents. See Chapter 4 of this AFTTP for more information on medical logistics functions.

1.5.2. ANG Units. ANG installations that are not co-located with an active-duty or AFRC unit with MC-CBRN capabilities will have only four response teams: 976A, 976H, 976K, and 976P. See Chapter 16 for more information.

1.5.3. AFRC Units. AFRC has no capability to execute any MC-CBRN responsibilities related to the following allowance standards: 886A, 886E, 886I, 886J, 886K, 886L, and 886M. They are exempt from all references to medical units executing any medical treatment, decontamination, laboratory, or pharmacy requirements. See Chapter 17 for more information.

1.6. Organizing and Equipping. Air Force medical units must develop, manage, and sustain critical capabilities to provide MC-CBRN response. Although medical units vary in size and available manning, all medical units must develop MC-CBRN response procedures and processes and organize, equip, and train personnel to respond to CBRN incidents. These processes and procedures must be detailed in the MCRP. Organizing and equipping personnel to

respond to a CBRN event and manage patients at an installation medical unit requires a combination of Line of the Air Force (LAF) and Defense Health Program (DHP) resourcing. The LAF programs support the materiel required for CBRN response. The DHP provides funding for CBRN materiel used to provide health care under normal operating conditions. ANG resourcing depends on medical operations and maintenance (O&M) funding and normally uses LAF or DHP funding.

1.6.1. Medical Unit Responsibilities. All medical units are expected to support their installations' response operations. Existing MCRP teams are responsible for implementing these capabilities. MCRP teams are expected to conduct medical surveillance, provide medical care and support, identify pathogens using the Laboratory Response Network (LRN), and support installation CBRN detection and hazard evaluation. MCRP teams should use this AFTTP to determine additional procedures and resources needed to provide a seamless response to a CBRN incident.

1.6.1.1. BE is responsible for surveillance, CBRN identification and quantification, CBRN health risk assessment (HRA), and hazard communication. AFRC BE offices are part of base operating support (BOS), not the medical unit. AFRC BE will execute (within the constraints of civilian personnel responsibilities) the requirements of this AFTTP related to the 886H package and BE and public health (PH). See Chapter 9 for more information.

1.6.1.2. All medical units must provide for pathogen identification using the testing resources of LBDTs (if available), LRNs, and the host nation, as appropriate. The testing capability at each medical unit will vary, depending on available equipment, microbiology expertise, and safety considerations (biosafety level [BSL]). Each medical unit should assess the in-house testing capability provided by LBDT and LRN resources and plan for supporting testing capability as needed through local, regional, state, and federal agencies. Overseas locations should use the referral networks pre-established by MAAs, MOAs, and MOUs, when possible. If regional or country laboratories are used, the sample should be split with one part sent to a U.S. laboratory. Suspect samples will be transported IAW International Air Transport Association (IATA) standards to continental United States (CONUS) LRNs or national laboratories.

1.6.1.3. Medical units must maintain the capability to provide patient decontamination. See Chapter 7 for more information.

1.6.1.4. Education, training, and exercises will be conducted as required by AFI 10-2501, AFI 41-106, AFI 90-201, major command (MAJCOM) policy, and local directives.

1.6.2. Casualty Care Planning. Medical unit casualty treatment capabilities vary considerably and inherently depend on the business model of each medical unit. For instance, medical response (treatment) to CBRN scenarios may or may not include the availability of organic ambulance services, 24/7 emergency medicine, and surgical services because normal operating conditions dictate the level of care and service available at the

medical units. Therefore, each medical unit's MCRP should be tailored to the local capability to include any MAAs, MOAs, or MOUs, local jurisdiction, regional, state, and other military response capabilities (to include Joint-Base medical response conops where the AF is not lead for mission support), and contracts in place to support response operations in a CBRN event. The MCRP describes how the medical unit will provide casualty care after a CBRN event. See Chapter 3 for more information on casualty management.

1.6.3. Antidote and Prophylaxis Assets. Each medical unit maintains limited quantities of BW/CW countermeasures or prophylaxis intended for first responders (and other workers who could be exposed during a response) and the initial treatment of casualties. Installations within the United States will coordinate with local public health agencies for plans and procedures to request and receive assets from the SNS in accordance with (IAW) the interagency agreement between the Department of Health and Human Services (HHS) and the Department of Defense (DOD). Overseas locations in foreign countries should plan based on combatant command requirements and host nation support.

1.7. Roles and Responsibilities. The following paragraphs describe the roles and responsibilities for MC-CBRN response. See AFI 41-106 for more information on roles and responsibilities for MR programs at the Air Force, MAJCOM, installation, and unit levels.

1.7.1. Medical Unit Commander. The medical unit commander establishes MC-CBRN capabilities IAW AFI 41-106, this AFTTP, and local requirements. (Not applicable to aeromedical evacuation [AE] or AFRC medical units.)

1.7.1.1. Ensures medical unit participation in the development of the IEMP 10-2.

1.7.1.2. Maintains MC-CBRN capabilities organically within the medical unit or by establishing written MAAs with other organizations in the local area or through a combination of these methods.

1.7.1.3. Manages and sustains critical capabilities to respond to contingencies with CBRN aspects by training, exercising, equipping, and budgeting.

1.7.1.4. Appoints, in writing, primary and alternate medical representatives for the Emergency Operations Center (EOC) and Emergency Support Function (ESF) IAW AFI 41-106.

1.7.2. Medical Unit Medical Readiness Officer (MRO), Medical Readiness Non-Commissioned Officer (MRNCO), and Medical Readiness Manager (MRM). These individuals comprise the MR office. (This term will be used hereafter in this AFTTP unless a paragraph addresses one role specifically.) The MR office is responsible for the following:

1.7.2.1. Provides oversight for the unit's MC-CBRN response capabilities and assist team chiefs with the management, training and staffing of their teams at the installation level.

1.7.2.2. Works collaboratively with MCRP team chiefs to ensure MC-CBRN procedures are integrated into the MCRP basic plan, MCRP annexes and team checklists, and the installation IEMP 10-2.

1.7.2.3. In coordination with the MCRP team chiefs, ensures that limiting factors for the medical unit's MC-CBRN response capabilities are identified and that those factors are communicated to the appropriate installation and MAJCOM staff.

1.7.2.4. Provides oversight and assists MCRP team chiefs in the management, training, planning, and staffing functions of their teams.

1.7.2.5. Ensures the MCRP includes security procedures to perform during a CBRN event, such as shutdown of heating, ventilation, and air conditioning (HVAC) systems, entry control, and security for patient decontamination, quarantine, isolation, and pharmaceutical dispensing facilities.

1.7.2.6. Participates in the local community's medical response system (or other local, medical planning committees) planning and organization meetings.

1.7.2.7. Ensure existing MAAs, MOAs, or MOUs with local hospitals, public health, and other emergency response agencies address CBRN initial and sustained responses. MAAs, MOAs, MOUs and the MCRP should address the following areas:

1.7.2.7.1. Use of MC-CBRN medical response-related equipment and personnel to augment off-installation civilian response when requested.

1.7.2.7.2. Use of medical unit resources to assist with quarantine, isolation, and pharmaceutical dispensing.

1.7.2.7.3. Transport of potentially contaminated casualties.

1.7.2.7.4. Receipt and decontamination of potentially contaminated patients.

1.7.2.7.5. Use of outside agency resources for sustained response to CBRN incidents that occur on the installation.

1.7.2.7.6. Procedures and plans for entering suspected biological samples into the LRN.

1.7.2.7.7. Procedures and plans for requesting the SNS through the local or regional public health authority. **Note:** SNS is not available OCONUS.

1.7.2.7.8. Identification of common communication channels.

1.7.2.7.9. Integration of the local community's mass prophylaxis plan with the installation's mass prophylaxis plan.

1.7.3. MCRP Team Chiefs. Units are not expected to develop separate or unique teams for MC-CBRN operations. Unit MCRP teams must plan for all installation contingency response scenarios, including MC-CBRN operations. MCRP team chiefs, in conjunction with medical logistics and the MRO, are responsible for the following functions:

1.7.3.1. Prepare MCRP checklists and procedures for responding to installation contingencies with DHP-funded equipment and supplies as well as LAF-funded CBRN equipment and supplies (MC-CBRN allowance standards).

1.7.3.2. Identify team equipment and supply requirements for inclusion in planning, programming, and budgetary submissions and develop a checklist for assessing ongoing levels.

1.7.3.3. Plan and program to sustain full capability of each allowance standard by estimating consumables and reporting the requirements to the MAJCOM through the MR office.

1.7.3.4. Submit annual funding requirements for medical exercises and CBRN emergency response training to the MAJCOM through the MR office, as needed.

1.7.3.5. Ensure MC-CBRN allowance standards are operationally maintained IAW AFI 41-209.

1.7.3.6. Conduct a formal inventory of equipment and supplies within 30 days of an exercise or real-world event in which 886 AS items are used and every 12 months, at a minimum, per AFI 41-209.

1.7.3.7. Ensure personnel assigned to the 886 MCRP teams are proficient and qualified to use the equipment listed on their respective MC-CBRN allowance standards.

1.7.3.8. Ensure personnel who are required to wear respiratory protection enroll in the installation's RPP.

1.7.3.9. Provide inputs for exercise development and lessons learned after exercises.

1.7.4. Medical Control Center (MCC). The MCC exercises command and control (C2) of all medical assets except when those assets fall under the control of the incident commander (IC) at the incident site. The MCC activates the appropriate MCRP teams immediately upon notification of a suspected CBRN incident. The MCC keeps the team chiefs informed about the suspected contaminants, the number of patients being sent or transported to the medical unit from the incident site, patient decontamination status, and the like. Medical personnel who answer the crash phone shall include in their protocols (IEMP 10-2 and MCRP) the concurrent activation of the MCC and MCRP teams whenever a CBRN incident is suspected.

1.7.5. Fire Emergency Services (FES). The senior fire official on scene typically serves as the IC. The IC establishes the incident command system (ICS) appropriate for the size and scope of the incident. The fire department generally assumes responsibility for the following functions at the incident site:

1.7.5.1. Establish contamination control zones and cordon area, entry control point (ECP), casualty collection point (CCP), incident command post (ICP), decontamination corridor, triage and treatment area, vehicle ingress, staging area, and egress as required by the situation.

1.7.5.2. Extricate victims from the hot zone. With exception of the BEE team, medical personnel do not operate in the hot zone or warm zone at the incident site.

1.7.5.3. At a minimum, provide gross decontamination of incident victims before turning them over to on-scene medical personnel in the cold zone.

1.7.5.4. Conduct decontamination of all personnel and equipment before exiting the warm zone.

1.7.6. Bioenvironmental Engineer. A BEE or senior BEE technician serves as the medical unit functional advisor for CBRN issues. The BEE provides subject-matter expertise to the IC and EOC on CBRN effects, health-based risk assessments, and operations in CBRN environments (in coordination with the PHEO). The BEE provides the EOC medical representative with incident information such as type of contaminant and expected population requiring decontamination. The EOC representative provides this information to the MCC. See AFI 41-106 for additional responsibilities.

1.7.7. Public Health Officer. The PHO conducts disease surveillance and epidemiological response. This includes daily monitoring to provide early detection of unusual disease trends that may suggest a suspected or confirmed covert biological attack or disease outbreak. The PHO coordinates with the BEE to identify CBRN threats, identify limitations of protective measures, and assess local threats and current information on vaccines, antidotes, and possible disease surveillance trends against the installation.

1.7.8. Public Health Emergency Officer. The PHEO is a senior officer appointed by the installation commander (ANG PHEO is a state appointee) to provide essential medical or public health emergency management. The PHEO works closely with other medical personnel and local/host nation public health authorities and corresponding agencies to identify, confirm, and provide guidance during a public health emergency. See AFI 10-2501 and AFI 10-2603, *Emergency Health Powers on Air Force Installations,* for more information.

1.7.9. Patient Decontamination Team. This team performs patient decontamination operations at the medical unit. All potentially contaminated patients who present to the medical unit will undergo initial triage, decontamination, and secondary triage before being permitted to enter the medical unit. The patient decontamination team chief ensures AS

886A is operationally maintained and incorporates the associated MC-CBRN response capabilities into the MCRP. The team chief ensures all patient decontamination team members enroll in the installation's RPP and have hazardous waste operations and emergency response (HAZWOPER) operations level training for first receivers. AS 886A is not equipped nor is the team trained to decontaminate contaminated human remains. (See Chapter 16 for ANG CONOPS.)

1.7.10. Field Response Team. The FRT reports to the scene as emergency responders and is under the C2 of the IC. This team is normally comprised of personnel from flight medicine, the emergency department, and/or ambulance services. The FRT chief is responsible for ensuring AS 886J is operationally maintained and the FRT capabilities are incorporated into the MCRP. The FRT chief must also ensure procedures are coordinated with the pharmacy team chief to incorporate the AS 886E pharmaceuticals into the response as needed.

1.7.11. Triage Team. The triage team chief ensures AS 886K is operationally maintained and incorporates the associated MC-CBRN response capabilities into the MCRP. The 886K team chief must also ensure procedures are coordinated with the pharmacy team chief to incorporate AS 886E pharmaceuticals with 886K response assets as needed. (See Chapter 16 for ANG CONOPS.)

1.7.12. Manpower/Security Team. AFI 41-106 combines the security and manpower teams into a single MCRP team. The manpower personnel are responsible for providing additional manpower support for tasks such as patient movement. The security personnel are responsible for providing security for the patient decontamination team and for ensuring that all entrances to the medical unit are locked to prevent contaminated patients from entering. The manpower/security team chief ensures AS 886M is operationally maintained and incorporates the associated MC-CBRN response capabilities into the MCRP. **Note:** The manpower/security team may include a decontamination support sub-team to support patient decontamination.

1.7.13. Clinical Team. The mission of the clinical teams is to receive patients and provide medical treatment at the medical unit. The clinical team normally includes immediate, minimal, and delayed elements. The clinical team chief maintains an operational AS 886L and incorporates the associated MC-CBRN response capabilities into the MCRP. The 886L team chief must also ensure procedures are coordinated with the pharmacy team chief to incorporate AS 886E pharmaceuticals with 886L response assets as needed.

1.7.14. Nursing Services Team. The nursing services team chief is responsible for maintenance and management of AS 886D. This AS augments AS 886L and provides equipment and supplies for medical units that have inpatient treatment capabilities. The nursing services team chief is responsible for coordinating CBRN response and treatment procedures with the clinical team chief.

1.7.15. Pharmacy Team. The MCRP pharmacy team chief ensures AS 886E is operationally maintained and incorporates the associated MC-CBRN response capabilities

into the MCRP. The pharmacy team chief coordinates with the FRT, triage, and clinical team chiefs to integrate 886E pharmaceuticals into the grab and go bags.

1.7.16. Bioenvironmental Engineering Team. The BEE team conducts HRAs IAW AFI 48-145, *Occupational and Environmental Health Program* and makes recommendations to ensure adequate force health protection (FHP) measures are in place. This team also provides environmental sample collection and transport to and from the LBDT and makes recommendations to ensure adequate protection of personnel and facilities. (**Note:** Environmental samples being delivered to the LBDT should always be collected in a liquid buffer solution. Raw environmental samples should never be delivered to the LBDT). The BEE team chief ensures AS 886H is operationally maintained and incorporates the associated MC-CBRN response capabilities into the MCRP. (See Chapter 16 for ANG CONOPS and Chapter 17 for the AFRC CONOPS)

1.7.17. Laboratory Biological Detection Team. The LBDT performs laboratory analysis of environmental and clinical samples to detect biological threat agents (BTAs) of medical and operational importance. The LBDT chief ensures AS 886I is operationally maintained and incorporates the associated MC-CBRN response capabilities into the MCRP. Note: LBDT will only run clinical sample on JBAIDS to support public health emergencies

1.7.18. Patient Administration Team. The patient administration team initiates patient tracking and accountability for all patients processed through patient decontamination at the medical unit after the secondary triage process. Job duties typically require awareness-level first responder HAZMAT training for hospital-based first receivers. Medical units designate patient administration team members to respond to the incident site to track patients sent to community medical facilities. Team members who may have direct contact with potentially contaminated patients are required to receive the appropriate level of first responder training.

1.7.19. Mental Health Team. The mental health team provides traumatic stress response for patients and FRT personnel.

1.7.20. Public Health Team. The PHT provides the MTF with the capability to detect and respond to a biological event.

1.7.21. Pilot Units. Pilot units provide technical operational testing and evaluation of equipment and supplies to the MRA. Medical unit personnel should provide the appropriate pilot unit with feedback and recommendations through MAJCOMs/SGX and MRA on allowance standard and CONOPS revisions.

AS	**Pilot Unit**	**Location**
886A Patient Decontamination	55 Medical Group (MDG)	Offutt AFB, NE
886D Nursing Services	633 MDG	Joint Base Langley-Eustis, VA
886E Pharmacy	633 MDG	Joint Base Langley-Eustis, VA
886H BE	20 MDG	Shaw AFB, SC
886I Laboratory Biological	633 MDG	Joint Base Langley-Eustis, VA

Detection		
886J Field Response	633 MDG	Joint Base Langley-Eustis, VA
886K Triage	23 MDG	Moody AFB, GA
886L Clinical	4 MDG	Seymour Johnson AFB, NC
886M Manpower/Security	23 MDG	Moody AFB, GA
886P Public Health	4 MDG	Seymour Johnson AFB, NC

1.8. Decontamination and Disposal Management. Cleanup after real-world operations requires a coordinated effort between various installation and federal and state organizations (e.g., Air Force Office of Special Investigations [AFOSI], Federal Bureau of Investigation [FBI], CES Environmental Branch), Environmental Protection Agency [EPA], local wastewater treatment facilities). The medical logistics facility manager should coordinate with the BE and Installation Management Flight to coordinate cleanup plans with all involved parties. The medical logistics facility manager is responsible for maintaining appropriate documentation of these agreements. Guidance for the proper treatment and disposal of decontamination wastewater and other potentially contaminated materials must be included in the MCRP.

1.8.1. Facilities and Equipment. Following decontamination operations, time and resources will not be spent cleaning the facility or equipment unless immediate reuse is anticipated. Depending on the nature of the incident, if federal and state agencies provide follow-on assistance, they will assume responsibility for these actions. However, team members must decontaminate themselves and process out of the patient decontamination area.

1.8.2. LBDT Equipment (886I). The disposal of Joint Biological Agent Identification and Diagnostic System (JBAIDS) and M1M consumables and reagents (chemicals) is IAW the instructions on the safety data sheet (SDS). The consumables and reagents from the test runs must be disposed of as biohazard waste. They will be placed in red biohazard bags or biohazard sharps containers and disposed of by autoclave or incineration. Disposal services can be contracted or accomplished in-house via an autoclave. M1M waste (from the test run) must be neutralized with 10 percent bleach and can then be dumped down a drain. Expired consumables (probes and mini-tubes) shall be treated and disposed of as biohazard materials.

1.8.3. Exposure History. Exposure records must be updated for first responders, medics, and other responders potentially exposed to CBRN agents, as well as BEE team members involved in field assessments or other activities that involve potential exposure. BEE and PH shall review personnel exposure assessments, AARs, and other incident response documentation.

1.9. Security Provisions. Physical security will be provided by the medical commander (posted medical personnel) and the installation commander (security forces [SF]) as deemed appropriate. Due to the sensitive nature of any type of positive finding for a CBRN agent, all aspects of communications security (COMSEC) and operations security (OPSEC) must be fully implemented and rigidly enforced. The LBDT and BE must have ready access to secured

communications to include secure telephone equipment (STE) and secret internet protocol router network (SIPRNET) capabilities.

1.9.1. Test Samples. Information about testing, including the test samples and categories through which they pass (presumptive tests, shipment under chain of custody rules, and definitive identification tests) will be treated as sensitive material and protected based on the operational impact and standard Air Force release of information directives. Based on the threat, scenario, and the nature of the testing, for official use only (FOUO) or higher level classification applies.

1.9.2. Supplies and Equipment. Although the likelihood of theft or vandalism to any AS is considered low, tight security should be maintained at all times. During routine operations, storage of supplies and equipment in controlled/no access locations with periodic inspections by designated medical unit personnel should be sufficient. During heightened force protection condition (FPCON) status or during actual response operations, equipment and supplies must be closely monitored at all times as outlined in the MCRP. For AS 886H or 886I items that are maintained within the medical unit, facility security services should be sufficient.

Chapter 2

CASUALTY PREVENTION

2.1. Casualty Prevention Overview. AFMS CBRN defense operations are organized in terms of two FHP concepts: casualty prevention and casualty care. Casualty prevention focuses on preventing casualties from environmental, occupational, operational, and CBRN threats. Casualty prevention through passive defense and tactical surveillance is an integral part of counter-CBRN defense operations. Passive defense protects personnel from the effects of a CBRN attack and improves the capability of personnel to survive and sustain operations in a CBRN environment. Passive defense consists of contamination avoidance, protection, and contamination control. Medical surveillance forms a basis for medical resource allocation, refines knowledge of the health threat, and allows continual assessment of the effectiveness of measures used to prevent and control disease and non-battle injuries (DNBI). Casualty prevention activities help provide installation commanders with the best available health-based risk assessment of an incident. Historically, well-trained medical providers have been able to help identify biological and chemical induced incidents well before other surveillance methods. Casualty prevention measures encompass pre-incident, incident, and post-incident phases of a CBRN event.

2.2. Pre-Incident Planning. CBRN agents may be dispersed on or near an installation overtly or covertly. Overt incidents generally produce a signature that alerts personnel to the incident, but a covert release may not be detected until casualties present to medical facilities. Medical unit MCRPs should include processes and procedures for responding to overt and covert CBRN incidents. Casualty prevention planning for terrorist CBRN threat response must begin long before an incident occurs. Plans must be reviewed, tested, revised, and disseminated as the need arises. Pre-incident planning should include the following activities.

2.2.1. Disease Surveillance. Disease surveillance aids in early identification of covert biological attacks and endemic disease outbreaks. PH shall conduct disease and syndromic surveillance on a daily basis. The single most effective tool for identifying and targeting health hazards is a robust health surveillance and DNBI monitoring and reporting system. PH should educate all providers on the importance of accurate reporting, standardized coding, and follow-up. They shall monitor trends based on coding data in the Ambulatory Data Module (ADM) of the Armed Forces Health Longitudinal Technology Application (AHLTA) electronic health record system. For monitoring to be effective, clinicians should code each day's patient encounters the same day. Other indicators may be detected through ancillary support functions such as pharmacy, laboratory, and radiology. Monitoring these data sources is critical to health-based risk assessment and may produce the first indication of a biological agent attack.

2.2.1.1. Examples of medical surveillance software include AHLTA and Executive Information Decision Support (EIDS) Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE).

2.2.1.2. The Centers for Disease Control and Prevention (CDC) *Smallpox Response Plan and Guidelines, Version 3.0,* provides guidelines on public health strategies and actions required for federal, state, and local public health officials during a smallpox emergency. This document is available on the CDC's website at the following URL: http://emergency.cdc.gov/agent/smallpox/response-plan/index.asp

2.2.2. Awareness Training. Medical units should ensure that healthcare providers are well-trained in recognizing the symptoms of biological, radiological, and chemical agent exposures to facilitate the early identification of CBRN incidents. (See AFI 41-106 for a list of required training.)

2.2.3. Vulnerability Assessments. Medical units should obtain and disseminate at the appropriate level applicable Hazard Vulnerabilty Analysis (HVA), TIC/TIM vulnerability assessments and intelligence, including food and water vulnerability assessments. Preventive medicine and facility medical personnel will use the results of these assessments to help focus their planning efforts as well as exercise and training programs. PH and BE will assess the threat of intentional contamination of food and water using available classified and unclassified intelligence sources (i.e., AFOSI data, FBI, ,Defense Intelligence Agency's [DIA] National Center for Medical Intelligence [NCMI]).

2.2.4. Personal Protective Equipment. Each medical unit must provide the appropriate PPE for all medical first responders or first receivers and other pre-identified trained personnel based on threat level, identified hazards associated with the event, and the type of work the individual is expected to perform in the hazardous environment. Each medic or MCRP team member acting as a first responder/first receiver should have grab and go access to the appropriate PPE. Examples of personnel who may require CBRN PPE include the BEE team, primary triage team (who triage patients before entering the patient decontamination area), patient decontamination team, and manpower/security and decontamination support teams working in the patient decontamination zone. This PPE provides basic protection against the vast majority of CBRN agents or blood-borne pathogens. Specific PPE use requirements can be modified based on threat levels and conditions as determined by the BEE and the IC. MC-CBRN AS 886A, 886H, 886I, 886K, and 886M provide HAZMAT PPE for MCRP teams. Other teams, such as the FRT, require universal precautions such as gloves, goggles, and surgical masks. MC-CBRN AS 886J and 886L contain these supplies.

2.2.5. Respiratory Protection. BEE is the authority on the selection, use, fit-testing, and limitations of respiratory protection. Respiratory protection that meets the definition of uniquely military equipment IAW the requirements of Executive Order (EO) 12196, *Occupational Safety and Health Programs for Federal Employees,* and Title 29, Code of Federal Regulations (CFR), Part 1960, *Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters,* Section 2, *Definitions* (29CFR1960.2), can be used during uniquely military operations. Individuals who are required to wear National Institute for Occupational Safety and Health (NIOSH) approved respirators must be enrolled in the installation RPP IAW Air Force Occupational Safety and

Health Standard (AFOSHSTD) 48-137, *Respiratory Protection Program.* BEE team members may be required to don a self-contained breathing apparatus (SCBA).

2.2.6. Protective Clothing. BE provides subject matter expertise on the selection, use, and limitations of protective clothing. Protective clothing that meets the definition of uniquely military equipment IAW the requirements of EO 12196 and 29 CFR1960.2 can be used during uniquely military operations. BE will determine the appropriate level of protection following the guidance in Title 29, CFR, Part 1910, *Occupational Safety and Health Standards, Section 120, Hazardous Waste Operations and Emergency Response, Appendix B, General Description and Discussion of the Levels of Protection and Protective Gear* (29CFR1910.120).

2.2.7. Pre-Exposure Preparation. Pre-exposure preparation is a preventive approach to help individuals prepare for and cope with potentially traumatic incidents. Pre-exposure preparation focuses on effective approaches to trauma stress management and emphasizes resiliency and the normalcy of feeling stress under abnormal circumstances. Pre-exposure preparation training should be coordinated between unit leaders and the traumatic crisis response team chief.

2.2.8. Occupational and Environmental Health (OEH) Hazards. BE provides expertise in responding to and identifying, analyzing, and controlling exposures to OEH hazards. AS 886H provides the necessary equipment. Other functional organizations such as CE readiness and emergency management (R&EM), explosive ordnance disposal (EOD), and fire department may provide similar capability.

2.3. Incident Response. Medical units should train, organize, and equip personnel to execute a medical CBRN response. The AFRC BEE team should plan for approximately an 8-hour limited duration due to base-specific limiting factors. Casualty prevention measures include proper personal protection for responders, preventing or minimizing the spread of contamination, detecting and identifying CBRN agents, toxic cordon management, providing risk management (RM) advice to the IC, and monitoring and documenting exposure levels for personal health records.

2.3.1. Overt Incidents. An overt CBRN or toxic industrial material (TIM) incident typically alerts personnel and prompts an immediate, appropriate response from installation agencies. Personnel should be aware that an event might not initially be reported as one involving CBRN or TIM agents.

2.3.1.1. The Air Force Incident Management System (AFIMS) will be used to manage a CBRN incident IAW the installation's IEMP 10-2. The senior fire official is normally designated the IC in charge of the scene under the ICS and is responsible for establishing an upwind ICP, ECP, staging areas, and contamination control zones.

2.3.1.2. Medical teams do not enter the warm or hot zone at the incident site. However, at many installations, the BE and CE teams may establish a combined entry team to detect, identify, quantify, and assess CBRN hazards in the hot zone.

2.3.1.3. All medical response teams will activate IAW local notification and activation procedures and report to the IC as directed. Manning and materiel requirements should be requested through the IC.

2.3.1.4. A senior medical unit representative (or BE/PH team member for AFRC bases) will report to the installation EOC and serve as the ESF #8 – Public Health and Medical Services official for PH and medical services. This person facilitates communications between the EOC and the MCC and is responsible for keeping the MCC informed of medical operations. These communications must flow from the IC who then communicates with ESF #8 at the EOC. A second medical unit representative may be required to report to the EOC to serve as the ESF #11 – Agriculture and Natural Resources official for agriculture and natural resources. A PH and BE representative may also be appointed to the EOC.

2.3.1.5. The medical unit commander or a designated senior medical unit representative will be a part of the Crisis Action Team (CAT). Senior representatives from key installation organizations report to the ICC where they advise the installation commander on strategic actions and liaison with higher headquarters (HHQ) and civilian agencies.

2.3.1.6. If an incident occurs and CBRN is suspected, BE personnel will respond with CE responders using an all-hazards approach and monitor for the presence of radiological, chemical, and biological contaminants. Following a positive detection, the BE will attempt to identify the specific material used to ensure that victims receive appropriate treatment and to assist in RM decisions.

2.3.1.7. Agent identification may require the collection of field samples to send to appropriate laboratories for analysis. Samples of suspected biological agents will be transported to the designated LBDT, LRN, or national laboratory for analysis.

2.3.1.8. FES will develop a toxic cordon plume model and R&EM will develop a toxic corridor plume model. The BE will advise the IC on appropriate modifications to the basic cordon established by SF and the fire department based on the physical characteristics and toxicology of the material identified, meteorological conditions, and the outcome of appropriate toxic cordon plume models (when available). The BE will also provide inputs on appropriate actions to take within the established corridor to include shelter in place or evacuation.

2.3.1.9. BE will advise the IC on appropriate RM to protect response personnel and to avoid additional casualties within the installation populace. **Note:** The commander should consider health risk input in the context of RM as part of the overall decision process. The following RM actions are required:

2.3.1.9.1. BE will accomplish an HRA IAW AFI 48-145. The HRA will be provided to the IC to assist with decision making and casualty prevention strategies.

2.3.1.9.2. Based on the HRA, the BE will advise the IC on the appropriate PPE for response personnel IAW AFOSHSTD 48-137 and AFA 91-202, The US Air Force Mishap Prevention Program. These recommendations will take into consideration the protection required and the operational needs of the situation. Overly conservative requirements can hinder mission effectiveness, tax resources, and may add needless stress on emergency responders.

2.3.1.9.3. BE will advise on-scene response personnel, including the IC, on the health risks identified and the appropriate control measures. Additionally, the BE will liaison with and solicit input as necessary from PH, PHEO, mental health, and the installation public affairs (PA) office.

2.3.1.9.4. During a biological agent incident, PH will create appropriate reports, conduct epidemiological analysis, and provide countermeasure, casualty prevention, and risk communication recommendations to the installation PHEO IAW AFI 10-2603, *Emergency Health Powers on Air Force Installation,* AFI 10-2604, *Disease Containment Planning,* and the installation disease containment plan.

2.3.1.9.5. The PHEO, if trained and certified may be designated as the IC during a public health emergency and is a principle advisor to the installation commander in such incidents.

2.3.1.9.6. BE will work with the installation emergency manager and FES to develop methods to reduce the spread of contamination from the incident to other areas on the installation. These actions may include decontamination of personnel and equipment, marking contaminated areas, and the application of water or other suppressants to plumes.

2.3.1.10. The manpower/security team should secure the medical unit and the area immediately around the medical unit by doing the following:

2.3.1.10.1. Secure the facility and limit access to control entry for staff and patients to a predetermined point of entry.

2.3.1.10.2. Blockade vehicle access to parts of the medical unit except for a pre-determined arrival path for ambulances and vehicles.

2.3.1.10.3. If necessary, close the ventilation intake louvers to prevent contaminants from entering the ventilation system.

2.3.1.10.4. Provide security outside the medical unit to the patient decontamination area.

2.3.1.10.5. Post guards and maintain general security throughout the medical unit.

2.3.1.10.6. Based on the risk to personnel, the security team may need to use their assigned PPE when working outside the medical unit.

2.3.2. Covert Incidents. A covert incident may not become evident until patients experience symptoms and report to the medical facility. The link between their illness and an intentional CBRN release may not be readily apparent. Patients may present in mass from a common source exposure or trickle in due to a propagated outbreak, as might be the case with exposure to a BW agent such as smallpox.

2.3.2.1. The first line of defense in the medical unit is a well-trained medical staff that recognizes the syndromes related to CBRN agent exposure and commonality of symptoms among dissimilar patients.

2.3.2.2. The next line of defense is a disease/syndromic surveillance system that track the incidence of selected diseases and syndromes on a daily basis. Surveillance systems currently in place include EIDS ESSENCE. This system monitors patient diagnoses in the medical unit ADM on a daily basis and reports clusters or incidence rates that exceed historical averages to the PHO.

2.3.2.3. PH personnel liaison with the local community public health agency to share disease and syndromic surveillance data that may assist in the early detection of a biological outbreak. PH investigates the clusters to determine if an outbreak is occurring using standard epidemiological outbreak investigation methods.

2.3.2.4. PH will request support from the BEE team if an outbreak investigation links the outbreak to suspected CBRN activity or food/water contamination. The BEE or PHO is responsible for notifying the medical chain of command, to include the PHEO, of a suspected CBRN event IAW local protocols. The medical unit commander will direct the appropriate medical unit response and recommend to the installation commander, as appropriate, implementation of the DCP and activation of the ICC and EOC. The PHO or PHEO may assume IC in such instances.

2.4. Post-Incident Recovery Actions. Casualty prevention activities associated with post-incident recovery include risk communication, expanded medical surveillance of exposed personnel, crisis response team actions, and CBRN contamination avoidance and control. These activities assist the installation with reestablishing normal operations and help ensure the health of the installation populace.

2.4.1. Health Risk Communication. Health risk communication ensures responders operate in a safe environment by minimizing their risk of unnecessary exposure. It helps prevent the public from receiving misinformation that may result in panic and minimizes the number of worried well presenting to medical facilities. Medical personnel should provide clear, consistent, understandable information to patients, visitors, medical group staff, and the general public. The installation public affairs officer (PAO) must ensure that risk communication messages have been vetted through the PHEO or PHO and are consistent with those provided to the community by local civilian agencies. Conflicting information

leads to confusion, frustration, and loss of public confidence. Medical personnel must communicate personnel exposure risks to commanders to assist commanders in their ORM-based decisions.

2.4.2. Expanded Medical Surveillance. A highly focused medical surveillance program is critical to casualty prevention during post-incident recovery. Continuous disease/syndromic surveillance enable the medical unit and local community healthcare facilities to quickly identify and treat new cases related to the CBRN incident. For contagious agents, surveillance efforts drive isolation and quarantine requirements to prevent further exposures. Surveillance activities help identify exposed members to protect responders and other healthcare staff from spreading contamination and contracting disease.

2.4.3. Crisis Response Team. Crisis response is designed and developed to provide psychological first aid services to the installation as needed. As a reactive service, the crisis response team provides advisory, consultative, and direct intervention and support to emergency response personnel, victims, and others at the scene after an encounter with a critical incident or natural/man-made disaster. The function of the crisis response team is to lessen the emotional and psychological impact of critical incidents on response team and emergency services personnel, victims, and others at the scene who have witnessed a potentially traumatic event. The support the crisis response team offers is designed to accelerate the return of personnel to routine functions after the incident. Members of the crisis response team are specially trained and appointed in writing and include personnel from mental health and various installation support services (e.g., chaplain, family services).

2.4.4. Contamination Avoidance and Control. An important aspect in restoring normal operations is determining the location and extent of contamination. The IC, with consultation from BE and other officials and agencies as appropriate, determines the most effective method to manage contamination. Contamination avoidance, supported by detection and surveillance measures, should be implemented if the extent or nature of the contamination is such that effective decontamination is not feasible. Contamination control through barriers and decontamination operations should be implemented if the extent and nature of the contamination is such that effective decontamination can be accomplished.

Chapter 3

CASUALTY MANAGEMENT

3.1. Casualty Management Overview. A CBRN incident creates several unique challenges for response personnel not normally encountered during routine operations. For example, medical units may encounter large numbers of casualties as well as large numbers of individuals with psychological stress reactions. Casualty care operations may include patient decontamination, triage, clinical care, patient movement on the installation and to off-installation healthcare facilities, restriction of movement and quarantine, and AE. Response to a CBRN event should follow established guidelines for mass casualty response IAW Air Force Doctrine Document (AFDD) 4-02, *Health Services;* FM 4-02.7/MCRP 4-11.1F/NTTP 4-02.7/AFTTP 3-42.3; and AFI 10-2603. This chapter addresses specific actions medical units must take to effectively prepare for, respond to, and recover from CBRN incidents that result in casualties.

3.2. Pre-Incident Preparation and Planning. IAW AFI 41-106, all medical units must develop an MCRP (ANG planning is included in the wing's IEMP) to address the threat of a CBRN event, taking into consideration local threat, mission, capabilities of facilities, and community resources. Contracts, MAAs, MOAs, and MOUs should be developed as appropriate to cover contingencies and services not provided by the medical unit. These documents must be reviewed by the MRO and PHEO to ensure any gaps in response planning are sufficiently mitigated.

3.2.1. Medical Unit Responsibilities. Medical units must be capable of self-sustainment in the early phases of a CBRN event and must plan for the following:

3.2.1.1. Medical operations at the scene to include surveillance, triage, life-saving actions, and transport.

3.2.1.2. Medical operations at the medical unit to include decontamination, surveillance, triage, diagnosis, and treatment.

3.2.1.3. Patients who present at the medical unit without on-scene treatment or decontamination (e.g., patients who bypassed the scene control or left the scene before control was established).

3.2.1.4. Inundation of anxious patients (worried well) and other psychological casualties who may or may not have had contact with the contaminant.

3.2.1.5. Risk communication strategies to address the likelihood of public anxiety and panic.

3.2.1.6. Provision of chemical and biological agent countermeasures and prophylaxis to first responders and incident casualties either at the scene or at a dispensing sites.

3.2.1.7. Procedures for maintaining visibility on all pharmaceuticals to include accurate and current inventories and lists of storage locations (peacetime pharmacy, AS 886E, and war reserve materiel [WRM]).

3.2.1.8. Procedures for requesting assets (pharmaceuticals, medical supplies, equipment) from the SNS through the DOD or the respective community or state health departments. See AFI 10-2603 for more information.

3.2.1.9. Setup and operation of points of dispensing sites for dispensing emergency medications or prophylaxis.

3.2.1.10. Setup of temporary first aid/screening facilities to isolate potentially infectious patients and lessen the impact on patient operations at the medical unit.

3.2.1.11. Provision of 24-hour security to the medical unit, patient decontamination area, and point of dispensing to control personnel and vehicle traffic and prevent contamination from entering the medical unit.

3.2.2. Cooperative Agreements. The potential magnitude of a CBRN event and limited staffing resources at medical units due to Air and Space Expeditionary Force (AEF) rotations and down-sizing in recent years requires establishment of cooperative relationships with local community emergency response agencies (hospitals, emergency medical services (EMS), health departments, and other emergency management organizations). MAAs, MOAs, and MOUs are the tools used to establish agreements between the medical unit and community agencies. These agreements require annual reviews and regular updates based on the availability of resources for response operations. To ensure agreements remain effective, medical units are encouraged to implement the following recommendations:

3.2.2.1. Assign a member of the staff (provider or senior nurse) along with the MRO, PHEO, or PHO to represent the medical unit at the community's local emergency planning committee (LEPC), health department, EMS, or hospital association. If no such organization exists, assist other community hospitals and emergency management organizations in developing one.

3.2.2.2. Regularly attend LEPC, health department, EMS, or hospital association meetings to keep abreast of changes in response capabilities within the community.

3.2.2.3. The MR office coordinates and updates comprehensive MAAs, MOAs, and MOUs with local hospitals and other emergency response agencies. As part of this planning process, ensure the applicable annexes of the MCRP that task or impact local response agencies are updated.

3.2.2.4. PH serves as a liaison between the installation and local health agencies for communicable disease programs and public health emergency management planning.

3.2.2.5. Whenever possible, participate in or invite local emergency response agencies to participate in CBRN exercises that incorporate Homeland Security Exercise and Evaluation Program (HSEEP) standards.

3.3. Planning Considerations. Planning considerations should include managing a large influx of patients, ambulance support services, evidence preservation, mortuary affairs, and PA. See Chapter 2 for more information on PPE and other personal protection measures.

3.3.1. Preparing for a Large Influx of Patients. Executive management must make early decisions about existing plans for providing health care. When the number of patients exceeds the number of available beds, staffing, or capabilities, executive management must assess whether to implement alternative or back-up resources. These resources should be identified in the MCRP. Plans must be in accordance with and complement the installation IEMP as well as any applicable local, state (e.g., Emergency Operations Plan), and national (e.g., National Response Framework) plans. The following recommendations can assist leadership in prioritizing requirements and networking patient needs with local facilities.

3.3.1.1. Determine whether a hospital in the community has been designated as a CBRN medical unit or whether all hospitals will share equally in the influx of patients. Document each hospital's function in the appropriate MAA, MOA, or MOU.

3.3.1.2. Establish conditions in which to implement the MCRP.

3.3.1.3. Determine when to cancel non-emergency surgeries and other elective procedures or temporarily suspend outpatient care.

3.3.1.4. Consider discharging non-contagious patients without compromising the quality of care.

3.3.1.5. Consider discharging patients to other healthcare facilities out of the affected geographical area, to long-term care facilities, or to home care as appropriate.

3.3.1.6. Consider discharging patients with communicable diseases when appropriate. Provide specific discharge instructions that include recommendations for caregiver protection, hand washing, disinfection of the environment, and post-mortem care.

3.3.1.7. Determine the availability and sources (e.g., SNS, Veterans Administration) of additional medical equipment such as ventilators, intravenous (IV) pumps, and other medical equipment.

3.3.1.8. Brief the IC and implement incident status reports IAW the MCRP.

3.3.1.9. Establish liaison with community partners (e.g., LEPC, health department, EMS, hospitals, and emergency management agencies).

3.3.1.10. Coordinate healthcare activities with the agencies on the installation IAW the installation's DCP for isolation and quarantine of affected/infected personnel as needed.

3.3.1.11. Implement a risk communications plan through a designated medical PAO for staff, visitors, current patients, and the installation PAO (consider development of educational handouts, etc).

3.3.1.12. Coordinate surveillance activities with local, state, and federal public health resources for pre-incident and post-incident exposure and effect tracking.

3.3.1.13. Provide pre-exposure preparation services IAW AFI 44-153, *Traumatic Stress Response,* if possible.

3.3.1.14. For installations without a laboratory team, establish points of contact and procedures with the AFOSI and possibly the FBI for sending samples to an approved LRN laboratory for confirmatory analysis. If the LRN will not accept environmental samples, establish alternative procedures for confirmatory analysis.

3.3.1.15. Establish a temporary site or alternate medical facility (e.g., gym, medical reserve center) to stage patients until they can be transported to other hospitals or healthcare facilities. Also plan for converting offices or non-patient treatment areas to bed space as appropriate. If the CBRN event affects the surrounding community as well, the local hospitals may be overwhelmed and unable to accept patients initially.

3.3.2. Ambulance Considerations. Many medical units no longer have ambulance service. Installations with ambulance service use the ambulances to respond to in-flight emergencies and possibly the incident site. However, some do not transport patients to local hospitals. Instead, they rely on local community ambulance services through contracts or MAAs, MOAs, or MOUs. The following provisions should be considered regardless of whether the installation has organic ambulance service or relies on community ambulance support:

3.3.2.1. Installation MAAs, MOAs, and MOUs must include local EMS access to the installation during increased FPCON.

3.3.2.2. Medical units with contract ambulance services should ensure that CBRN response actions are included in contract statements of work. Ensure procedures are in place to transport patients who may not have undergone gross decontamination at the scene.

3.3.2.3. Ambulance crews commonly configure their response equipment and supplies based on local policies. This AFTTP does not alter that practice. However, it is required that local EMS and ambulance services, in the course of their response training, clearly identify which medical care equipment EMS personnel will take when responding to the incident. Examples include airway management bags, oxygen delivery systems, trauma bags, and advanced life support (ALS) medication bags.

3.3.2.4. Individual medical units should consider configuring a CBRN response bag with patient care items that can be stored in a dedicated ambulance compartment. These bags should be configured from AS 886J (FRT capability).

3.3.2.5. Each ambulance should be equipped with patient covers and blankets for ambulatory and litter patients after the decontamination process. The ambulance should have sturdy plastic bags for contaminated clothing and infectious waste bags to contain items contaminated with blood or other body fluids.

3.3.2.6. Decontamination of vehicles may be necessary before returning to normal services after the incident. Contaminated vehicles may be out of service for an extended period of time depending on the nature of the contamination.

3.3.3. Evidence Preservation. In some cases, the AFOSI may require collection of exposed clothing and other potential evidence such as decontamination run-off. Biological specimens (e.g., blood, urine, food) from casualties may need to be treated as evidence under certain circumstances. The medical unit commander should establish policies and procedures for evidence preservation and labeling and inventory of a patient's effects. Procedures for the retrieval, handling, securing, and disposition of a patient's weapons (e.g., guns, knives, syringes) should be developed IAW AFI 31-207, *Arming and Use of Force by Air Force Personnel,* AFMAN 31-229, *USAF Weapons Handling Manual,* and local procedures. Strict chain-of-custody protocols must be established and followed.

3.3.4. Management of Human Remains. Management of human remains is primarily an Air Force mortuary affairs responsibility. The medical unit in conjunction with mortuary affairs and the local community should pre-determine responsibilities and procedures for transporting remains from the scene. Additional considerations include when and where a provider will certify death during a mass casualty situation, morgue capacity, and alternate facilities determinations. The medical unit commander, in coordination with BE, PHO, PHEO, and the infection control officer, should advise mortuary affairs personnel on the type of contamination, health hazards, and measures to prevent the spread of disease and contamination. Local initial decontamination procedures and collection points for contaminated remains may need to be established. Contaminated remains should not be transported in an ambulance and should not be transported to the medical unit. Arrangements should be made to store contaminated casualties in other areas (perhaps refrigerated trucks) until the Army Human Remains Decontamination Team arrives. The patient decontamination team does not decontaminate human remains. See JP 4-06, *Mortuary Affairs in Joint Operations,* for more information.

3.3.5. Internal Communication. It is imperative that the MCC keep the medical unit staff informed about the incident, its progress, and any other items of interest. In a chaotic situation, the medical staff may be insulated from the response effort as they treat incoming patients. To avoid rumors and other distractions that may adversely affect the morale and ability of medical staff to perform, the MCC should provide regular updates to the staff.

3.3.6. Public Affairs and the Media. CBRN incidents will draw media attention. It is critical that the medical unit work with the installation PAO to assess the public's need and right to know against security concerns and patients' privacy rights when responding to the media.

3.3.6.1. The PHEO/PHO is typically the medical unit contact for providing medically related information on response, medical effects, and countermeasures to the installation PA office for release to the media.

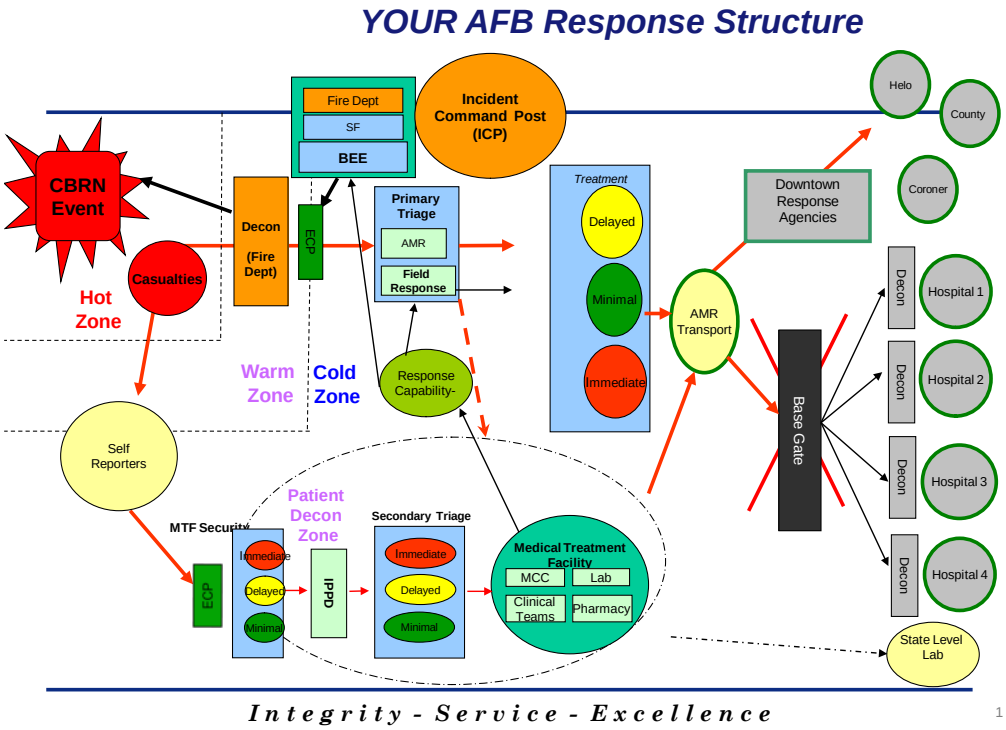
3.3.6.2. The media may want to interview a healthcare provider or representative from the medical unit. Any contact with the media must be coordinated through the medical unit commander and the installation PAO.

3.3.6.3. BE, PH, aerospace medicine, and mental health can be invaluable in preparing press releases and public statements. Their expertise can help identify people who need to report for medical evaluation and calm the concerns of those who do not.

3.3.6.4. Any joint medical response conducted with community partners should also consider coordinating risk communications efforts to the public to minimize conflicting statements.

3.4. Overview of MC-CBRN Response Operations. Figure 3.1 shows the basic MC-CBRN response operations and patient flow in a controlled environment. The MC-CBRN response capability is comprised of the MC-CBRN 886 AS and existing MCRP teams. The MCRP contains MC-CBRN response procedures and checklists.

Figure 3.1. Overview of MC-CBRN Response Operations



3.4.1. Security Perimeters. The installation's SF establishes and controls the perimeter around the incident. Hot, warm, and cold zones are established. The manpower/security team controls all entry points into the medical unit to prevent unauthorized or contaminated individuals from entering the medical unit.

3.4.2. First Responders. The FRT (e.g., ambulance services) responds to the scene and requests additional FRT support as needed.

3.4.3. Health Risk Assessments. The BEE team provides HRA IAW AFI 48-145.

3.4.4. Patient Decontamination. The patient decontamination team sets up the decontamination system to process casualties who self-report to the medical unit who have not been decontaminated at the scene or who need further decontamination. Triage team members are positioned at the entrance and exit of the decontamination area to triage casualties. (See Chapter 15 for ANG CONOPS.)

3.4.5. Emergency Operations Center. The EOC is established to provide resources and support to the IC. A medical representative is normally assigned to provide medical emergency support functions. The EOC may also include a BEE team representative and the PHEO if requested or designated by the installation IEMP as part of the ESF.

3.4.6. Entry Control Point. An ECP is established at the scene. Everyone going into and out of the hot zone must process through the decontamination corridor. FES manages and ensures gross decontamination of casualties leaving the ECP.

3.4.7. Casualty Flow. In the cold zone, after gross decontamination, FRT members perform casualty triage and stabilization. Casualties are then transported to the installation or local medical facility where they are re-triaged and handed off to triage or clinical teams. **Note**: Casualties who have undergone proper gross decontamination at the scene (e.g., removal of clothing, showering/washing with water) do not require additional decontamination by the patient decontamination team. Patient flow for casualties transported from the field should avoid the patient decontamination warm zone to prevent re-contaminating the patient or ambulance crews.

3.4.8. MCRP Team Functions. The clinical, administrative, laboratory, pharmacy, and other MCRP teams perform their roles inside the medical unit.

3.4.9. Point of Distribution Functions. Upon activation, the point of distribution team performs their roles at the point of dispensing site, usually outside the medical unit.

3.5. MC-CBRN Operations at the Incident Site. CBRN response is managed IAW AFIMS guidance. First responders may or may not know they are dealing with a CBRN incident when the call comes into the dispatch center. The senior fire officer (known as the IC) is in charge of the scene and is responsible for establishing the hot, warm, and cold zones. However, medical responders initially stage in the cold zone at the ECP and initiate communication with the IC. Medical personnel are not permitted to enter the warm or hot zone with the exception of BE. Every attempt will be made to keep ambulances from entering the warm or hot zones. If an ambulance enters these areas, either intentionally or unintentionally, it must remain there until otherwise directed by the IC in consultation with BE. Field triage and treatment is IAW established guidance. See paragraph 3.7 for triage and treatment references.

3.5.1. Initial Response. All Air Force medical units providing ambulance service must accomplish the following medical actions on-scene:

3.5.1.1. Obtain all available information concerning the nature of the event and identify a safe route. Considerations include the ECP location, HAZMAT potential, and wind direction.

3.5.1.2. Report to the IC at the ECP and advise the IC on medical operations and concerns.

3.5.1.3. Request additional resources as needed. Route requests for additional support from local medical units (military or civilian) as well as notifications of anticipated casualties through the IC. The IC will then contact the EOC Director, if available, to forward the information to the MCC. This notification can help alert medical facilities to implement their facility security procedures in anticipation of the potential arrival of contaminated patients who may have already left the scene.

3.5.2. Emergency Decontamination. FES will extricate victims and perform gross decontamination on potentially contaminated personnel in the warm zone IAW AFMAN 10-

2503. Patients will then be turned over to on-scene medical personnel at the CCP in the cold zone. For guidance on proper decontamination procedures (particularly for severely injured patients), fire department personnel should consult with the senior medical representative at the incident site by radio before decontaminating the patient.

3.5.3. Patient Identification and Tracking. Medical units must implement a patient identification and tracking mechanism. This tracking mechanism must be pre-planned with all possible responding medical facilities in the local area and fulfill HHS and FBI requirements. The FBI assumes the lead role in the response with HHS as a supporting agency. A patient administration team is responsible for tracking patients. The patient administration team responds with the FRT to the incident site to track patients who are transported by EMS to a hospital in the community. This patient tracking information is needed for keeping the medical group commander and installation commander informed of their status. This information will also be valuable for the notification of next of kin.

3.5.4. Transporting Casualties. The senior medical representative at the incident site, working through the IC, will direct patients to either a military or civilian medical unit based on patient acuity, contagiousness, suspected contamination, and the availability and capabilities of local treatment facilities. Factors in these decisions include the appropriateness of the situation and whether FPCON measures permit movement of patients on and off the installation. Medical units with limited or no ambulance services for moving casualties from the incident site to an on-installation medical unit may choose to use vehicles of opportunity. The medical unit may arrange for mass transportation of casualties, if appropriate, through the vehicle control officer (VCO) or logistics readiness squadron at the installation.

3.5.5. Medications and Prophylaxis. If necessary, the senior medical representative may order emergency medications and prophylaxis for all potentially exposed emergency responders at the scene. AS 886E sub-assemblage PD provides prophylaxis and antidotes for first responders. If circumstances at the incident warrant a more comprehensive mass prophylaxis response, the senior medical representative should consult with the PHEO to recommend activating the installation's mass prophylaxis dispensing plan IAW the DCP and MCRP.

3.6. MC-CBRN Operations at the Medical Unit. Although smaller medical units may not be the primary receiving facility for patients arriving from the scene of an incident, all medical groups should train, equip, and plan to sustain at least 24 continuous hours of patient care without outside assistance. A patient may present at the front door of the facility regardless of the capability or capacity of the medical unit. Smaller medical units may need to establish temporary extended patient care capabilities in the medical unit or an alternate medical facility using the limited resources and capability available until patient transport can be arranged. See Chapter 16 for ANG MC-CBRN operational guidelines.

3.6.1. Operational Procedures for Field Triaged Patients. Medical units should implement the following procedures for patients arriving at the medical unit after triage, gross decontamination, and initial treatment at the scene:

3.6.1.1. Execute plan to receive patients at the medical unit.

3.6.1.2. Deliver patients to the medical decontamination site, if needed.

3.6.1.3. Monitor and medically decontaminate as necessary IAW Attachment 4, Patient Decontamination Procedures.

3.6.1.4. Initiate patient tracking mechanisms.

3.6.1.5. Re-triage and provide appropriate immediate care.

3.6.1.6. Deliver patients to the appropriate treatment teams.

3.6.2. Operational Procedures for Self-Reporting Patients. Patients may arrive at the medical unit who did not receive treatment at the scene. Other patients may arrive who are experiencing symptoms, but their level of contact with the contaminant is unknown. Medical units should implement the following procedures:

3.6.2.1. Activate the triage team, patient decontamination team, and security/manpower team IAW local procedures (e.g., MCRP). The triage team will be split into two teams: a primary triage team and a secondary triage team.

3.6.2.1.1. The primary triage team provides immediate, stabilizing care and prioritizes casualties for decontamination and entry into the medical unit. Primary triage is based on injury, contamination, available resources, and transport/evacuation priority. Note: Consider the vulnerable and special needs population i.e children, pregnant women, elderly, disabled and chronically ill.

3.6.2.1.2. The secondary triage team receives non-contaminated patients or patients from the patient decontamination team after decontamination.

3.6.2.2. Don PPE, as applicable, and set up staging areas.

3.6.2.2.1. The primary triage team should don Level C PPE after receiving notification and establish a triage staging area outside the medical unit (near the patient decontamination area) for receiving and triaging patients.

3.6.2.2.2. The secondary triage team sets up a secondary triage area inside the medical unit and does not require Level C PPE.

3.6.2.2.3. The security/manpower team should don Level C PPE upon activation and organize the flow of self-presenters.

3.6.2.3. Identify contaminated patients and immediately isolate them to avoid cross-contamination with non-contaminated patients.

3.6.2.4. Monitor and medically decontaminate patients as necessary IAW Attachment 4.

3.6.2.5. After decontamination, provide patients with a gown or other suitable covering and escort them into the secondary triage staging area inside the medical unit. The secondary triage team will triage patients based on the injury and available resources.

3.6.2.6. After secondary triage, deliver patients to the appropriate treatment team (minimal, delayed, or immediate) where they will be treated and released or stabilized until they can be transported to a designated medical facility for definitive treatment.

3.6.3. Medical Leadership Responsibilities. During normal duty hours, the medical unit commander has availability of all medical unit assets and can use them as needed. After normal duty hours, the medical unit will respond with available resources. The medical unit commander or designee will evaluate the need for additional staff and establish realistic timelines for staff response. The medical unit commander should ensure existing checklists and procedures are properly executed to include the following:

3.6.3.1. Secure the facility and limit and control access in accordance with guidelines detailed in MCRP.

3.6.3.2. Implement facility HVAC systems shutdown as needed.

3.6.3.3. Establish a facility ECP.

3.6.3.4. Activate MAAs, MOAs, or MOUs for additional medical support.

3.6.3.5. Communicate with staff and patients to prevent panic.

3.6.3.6. Direct CBRN assets for immediate use.

3.6.3.7. Activate medical unit response/recall to include initial response, triage, crisis response, and decontamination teams as appropriate.

3.7. Guidelines for Triage and Treatment of CBRN Casualties. Triage and treatment of CBRN casualties is IAW the following guidelines:

3.7.1. Biological Agents. Each medical unit must maintain and manage MC-CBRN supplies (antibiotics and vaccines) and plan for distribution and dispensing to include requesting additional assets contained in the SNS IAW pre-arranged plans with the community and state health departments. Triage, treatment and antibioctic therapy is IAW the United States Army Medical Research Institute of Infectious Diseases (USAMRIID) *USAMRIID's Medical Management of Biological Casualties Handbook* and current CDC guidelines. Training materials are available on the USAMRICD website at the following URL:

http://www.usamriid.army.mil/education/bluebookpdf/USAMRIID%20BlueBook%207th%20Edition%20-%20Sep%202011.pdf

3.7.2. Chemical Agents. Medical units must use AS 886E to treat casualties exposed to chemical agents. Triage and treatment is IAW Air Force Joint Manual (AFJMAN) 44-149, *Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries;* United States Army Medical Research Institute of Chemical Defense (USAMRICD) *Medical Management of Chemical Casualties Handbook*; and USAMRICD *Field Management of Chemical Casualties Handbook.* Training materials are available on the USAMRICD Chemical Casualty Care Division website at the following URL: https://ccc.apgea.army.mil

3.7.3. Nuclear/Radiological Agents. Medical units should perform triage and treatment to the extent of their capabilities. For guidance, see DOD Manual 3150.8-M, *Nuclear Weapon Accident Response Procedures (NARP);* United States Army Public Health Command (USAPHC) Technical Guide (TG) 244, *The Medical CBRN Battlebook;* and Armed Forces Radiobiology Research Institute (AFRRI) *Medical Management of Radiological Casualties Handbook*. Additional information is available at the Radiation Emergency Medical Management (REMM) website at the following URL: http://remm.nlm.gov.

3.7.4. TIC/TIM Incidents. Medical units should consult the Toxicology Occupational Medicines and Environmental Sciences Meditext function, the SDS, and the U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) *Emergency Response Guidebook (ERG)*. Consult the BE/fire department resource officer for assistance.

3.8. Post-Incident Recovery Actions. Following a CBRN incident, the medical unit must assist the installation in re-establishing normal operations and ensure the health of the installation populace. Many of these activities parallel casualty prevention efforts. This section describes the post-incident recovery actions specific to casualty management. See Chapter 2 for more information on post-incident recovery and casualty prevention.

3.8.1. Health Risk Communication. In most cases, the effects of a CBRN event are not limited to the geographical boundaries of the installation. Health risk communication is essential to help minimize public fears. To ensure patients, visitors, and the general public receive clear, consistent, and understandable information, medical units should develop a health risk communication fact sheet and coordinate its distribution through the installation's PA office as soon as possible. Tailored health risk communication efforts must be accomplished before re-occupancy of facilities affected by the CBRN incident. Failure to provide a public forum for information exchange may increase fear among individuals who could attribute non-specific symptoms to the incident. These health risk communication efforts focus on managing existing casualties while those of casualty prevention focus on the continuing response efforts and response personnel.

3.8.2. Expanded Medical Surveillance. A detailed accounting of all potentially exposed personnel is essential to ensure treatment and follow-up surveillance. Medical units should implement a post-exposure surveillance program in cooperation with the lead agency. They

should administer it to all potentially exposed individuals to assess their exposure and symptom history. Reference AFI 48-145 defines the LER as a comprehensive exposure assessment record of all occupational and environmental exposures for all DoD personnel. Document all exposures and treatments using the Defense Occupational and Environmental Health Readiness System (DOEHRS).

3.8.3. Crisis Response Teams. The installation should provide an appropriate team composed of representatives from mental health, the chaplain's office, and the Airmen and Family Readiness Center to conduct crisis response. External crisis response staff may also be available for assistance when requested. The crisis response team should be prepared to provide post-incident intervention to both staff and patients as deemed necessary. Quick intervention is critical in restoring responders and quelling patient anxiety and stress.

Chapter 4

LOGISTICS

4.1. Medical Logistics Responsibilities. The medical logistics activity provides oversight for the acquisition, storage, distribution, and maintenance of supplies, pharmaceuticals, and equipment to support MC-CBRN response based on locally developed policies and procedures. MCRP team chiefs prepare MCRP checklists and procedures for responding to installation contingencies with DHP-funded equipment and supplies as well as LAF-funded CBRN equipment and supplies (MC-CBRN AS). All MC-CBRN assemblages will be managed using the processes defined in AFI 41-209. These processes provide a systematic method to develop, change, and review medical allowance standards to ensure they are kept functional and current.

4.2. Allowance Standard (AS) Authorization Levels. MC-CBRN allowance standards are a minimum authorization for a given module, unlike a WRM AS, which is a standard list of items and quantities (basis of issue) that cannot be modified locally. AFI 41-106 states that medical units can modify or tailor the AS levels to enhance their local capabilities based on threat assessments, medical capabilities, limiting factors and capabilities leveraged through MOU/MOAs. Reference AFI 41-106 and AF/SG3 tailoring policy memo and guidelines for the approval process.

4.3. Peacetime Operating Stocks (POS). POS may be used to reduce MC-CBRN requirements. Medical units should follow the procedures for WRM POS outlined in AFI 41-209 to calculate and document MC-CBRN POS.

4.4. Accountability. Each MC-CBRN assemblage must be managed and accounted for IAW AFI 41-106 and AFI 41-209. All allowance standard equipment and supplies will be issued to the respective team chiefs and property custodians. Once issued, they become the direct responsibility of the team chief. Team chiefs should always be aware of the status of their MC-CBRN equipment and supplies. Team chiefs should communicate the condition of equipment and supplies and replacement needs to medical unit leadership through the MR office. See Chapter 1 of this AFTTP for more information on team chief responsibilities. See Attachment 11 for a list of each AS and assigned MCRP team.

4.4.1. Team Chiefs. MCRP team chiefs for patient decontamination (886A), nursing services (886D), pharmacy (886E), BE (886H), laboratory biological detection (886I), field response (886J), triage (886K), clinical (886L), manpower/security (886M), and public health (886P) are appointed in writing and are responsible for establishing and maintaining their allowance standard assets. Team chiefs are responsible for initiating all requests for materiel and providing input on annual budget submissions for resupply.

4.4.2. Team Property Custodian. The team chief may serve as the team property custodian for the RC/CC account or another team member can be assigned that duty. The team property custodian is accountable for all property on the receipt/locator list. The team property custodian uses DMLSS and MRDSS to manage the AS.

4.5. Storage. MC-CBRN assemblages should be stored so they are secure and readily available for immediate use. If CBRN materiel is temporarily stored in medical logistics warehouses, it should not be commingled with Air Force Working Capital Fund (AFWCF) inventories. MC-CBRN assets must be clearly marked and segregated from peacetime and WRM inventories. Some MC-CBRN assemblages contain medical supplies and equipment with specific storage requirements.

4.6. Resource Management. MRDSS provides information on the medical readiness status of MC-CBRN projects. Team chiefs and property custodians are responsible for managing inventories of their MC-CBRN assets in the DMLSS Assemblage Management module. This module provides automatic updates to MRDSS.

4.7 Maintenance. Each medical unit must ensure MC-CBRN allowance standards are operationally maintained IAW AFI 41-209

4.8. Sustainment. Real-world operations, exercises, and training will consume medical supplies that must be replenished to keep the equipment packages operational. Each team chief should project annual consumption and submit funding requirements to the MR office. The MR office will then work with the Resource Management Office (RMO) and MAJCOM PEM for PE 28036F (58036F for ANG units), MC-CBRN Programs, to forecast and distribute sustainment funds for each team. During the execution year, the MR office will verify the requirements from each team chief for available funds. If funds are available, the team chief will prioritize and submit those requirements verified by the MR office to medical logistics for purchase. Team chiefs may not order sustainment supplies without coordination with the MR office. (See Chapter 16 for ANG funding requirements.)

4.8.1. Resupply Funding. Medical units should program and budget for replenishment of supplies used during real-world incidents, training, and exercises as well as stock rotation and replacement of supplies that cannot be traded in to vendors or used for POS Medical units should maintain strict tracking and accountability of all supplies, including those obtained from WRM, civilian, or other military caches. Requests for activation of MAAs, MOAs, or MOUs to meet projected demand should be relayed to the MCC.

4.8.2. Projections. Authorization levels or in-stock quantities for all 886 allowance standards may at times be insufficient to sustain immediate response (primarily the first 24-hours) depending on the scope of the CBRN incident. It is the team chief's responsibility to inform the medical unit commander of identified shortfalls based on valid, credible threats and to make recommendations for the procurement of additional equipment and supplies required to sustain operations.

4.8.3. Inventory and Inspection. Conduct inventories and inspections IAW AFI 41-209. Team chiefs should ensure that required on-hand quantities are in place. All allowance standard supplies and equipment should be inspected to identify any shelf-life coded items

that have expired and to determine whether any items are damaged, inoperable, or unserviceable.

4.8.4. Pharmaceutical Replacement and Stock Rotation. If possible, pharmaceuticals within AS 886E should be rotated forward to POS pharmacy stocks. Vendor orders should be used to replace supplies in the AS 886E cache. Pharmacies should coordinate with medical logistics for items that cannot be kept in the pharmacy due to space limitations or inability to rotate through the pharmacy inventory (not on the formulary).

4.9. Incident Response Procedures. The medical logistics activity should perform incident response actions IAW the local MCRP. If at any time, demand for AS items is projected to exceed supply, the MCC must be informed immediately of the projected exhaustion time. For AFRC bases with 886H packages, the EOC must be informed immediately of the projected exhaustion time. Strict tracking and accountability of all supplies obtained from other sources (e.g., WRM, civilian responders) must be maintained.

4.10. Post-Incident Response Procedures. Following a response to an incident, each MCRP team chief must ensure an inventory is conducted per AFI 41-209 to identify materiel shortfalls or equipment maintenance requirements. Each team property (RC/CC) custodian should submit requisitions for materiel and request equipment maintenance and repairs to the medical logistics activity through DMLSS. The logistics activity will acquire, store, distribute, or repair and maintain equipment based on funds availability and equipment maintenance support. All actions should be coordinated with the unit MR office.

Chapter 5

TRAINING AND EXERCISES

5.1. Training Overview. The education and training recommended in this AFTTP will impart a working knowledge of the concepts, principles, and procedures for operating in a CBRN environment. This education and training addresses the individual, collective, unit, and leadership skills needed to support installations response requirements. Education, training, and exercises will be conducted IAW AFI 10-2501, AFI 41-106, AFI 90-201, MAJCOM policy, and local directives.

5.1.1. Joint Commission Environment of Care (EC). The Joint Commission EC standards require hospitals to develop and implement an emergency management plan (e.g., MCRP) that ensures effective response to emergencies affecting the environment of care. The EC standards require hospitals to conduct exercises based on plausible scenarios that are realistic to the hospital. These exercises should be based on the hazard vulnerability analysis (HVA). MCRP training requirements should be established based on CBRN first responder and first receiver capabilities using the HVA.

5.1.2. Accreditation Association for Ambulatory Health Care (AAAHC). The Air Force uses the AAAHC for accreditation and guidance requirements for ambulatory care facilities (MDGs designated as clinics). AAAHC discusses a requirement for "a comprehensive written emergency and disaster preparedness plan to address internal and external emergencies, including participating in community health emergency or disaster preparedness, when applicable. The AF medical plan is the MCRP The guidance in the AAAHC manual is not specifically for military clinics. Therefore, AFI 41-106 remains the overarching guidance for training and exercises.

5.2. Specialized Team Training. Team training should be based on the duties and functions performed by each MCRP team. All medical first responders, first receivers, and supporting MCRP teams with a funded AS must comply with the training requirements that are specific to their team and AS, as well as AFI 10-2501. Share good news with the MAJCOM or pilot unit on AS use, tools, successes, and recommendations as well as AS needs, requests, and ideas for improvement by elevating through the MR Office.

5.2.1. Patient Decontamination Team (886A). All medical units must maintain a trained cadre with the skills and knowledge to provide initial and refresher training for the entire patient decontamination team. The patient decontamination team chief is responsible for ensuring all assigned team members remain current in their training and maintain proficiency.

5.2.1.1. Train new team members within 30 days of assignment to the team.

5.2.1.2. The patient decontamination team chief and alternate must attend a casualty decontamination course such as the Patient Decontamination Course conducted at the Military Education and Training Center (METC) at Camp Bullis or other Lead MAJCOM-approved course. The METC Patient Decontamination Course meets

minimum HAZMAT operations training requirements and is a train-the-trainer course. Team chiefs must conduct local team training after course attendance.

5.2.1.3. At least once each year, include a full setup of the patient decontamination system with water hookup, runoff containment, and patient processing. **Note:** The team should demonstrate the proper layout of the wastewater bladder in the containment berm, proper placement of the sump pump, and proper connection of the backflow preventer but should not let water flow into the bladder during exercises because of the difficulty of emptying the bladder afterwards.

5.2.2. Pharmacy Team (886E). Pharmacy personnel should be fully trained and cognizant of their role as outlined in the MCRP. No additional training is necessary beyond the training requirements for the pharmacy MCRP team.

5.2.3. BEE Team (886H). BEE team personnel should be fully trained and cognizant of their role as outlined in the MCRP (or base IEMP 10-2 for AFRC bases). Basic technical school, upgrade training, readiness skills verification (RSV), unit type code (UTC) training, and BEE team training are all pertinent and crucial to ensure a ready response force for CBRN incidents.

5.2.3.1. Training requirements for Air Force medical response teams and HAZMAT designed to comply with 29CFR1910.120 and NFPA standards are defined in AFI 10-2501.

5.2.3.2. BEE team personnel must participate in proficiency analytical testing (PAT) for CBRN agents. To attain the required level of proficiency necessary for full operational capability, team members must receive equipment-specific training that focuses on the operation, maintenance, use, and storage of detection and response equipment.

5.2.3.3. The BEE team should appoint a PAT POC responsible for the following functions:

5.2.3.3.1. Ensure all BEE personnel accomplish electronic proficiency analytical challenges (ePAC) and PAT quarterly unknown sample identification (QUSI). Ensure timely submission of sampling results to USAFSAM.

5.2.3.3.2. Forward a list of all BEE personnel required to participate in the PAT program to USAFSAM.

5.2.3.3.3. Whenever HAPSITE or other equipment required for the PAT is not operational or significant issues are discovered, contact the BMET and medical logistics to request a loaner, if available. (AFRC bases should contact the active duty host base's medical logistics office.)

5.2.3.3.4. Encourage teamwork and group participation in monthly ePACs and ensure personnel complete quarterly PAT QUSI rounds independently.

5.2.3.3.5. Ensure BE personnel are enrolled in the RPP.

5.2.4. Laboratory Biological Detection Team (886I). All laboratory personnel who may be involved in handling specimens from a suspected or known bioterrorism event or infectious disease outbreak must be trained on national LRN policies and procedures and the LBDT mission.

5.2.4.1. The LBDT may train medical unit support staff in proper sample receipt to prepare for a high volume of samples and subsequent surge testing that may result from a CBRN event. Specimen preparation is the most technically difficult portion of the identification process and should only be performed by formally trained individuals. By providing additional specialized training to laboratory and other medical staff, surges in workflow can be better supported. PH, BE, and first responder personnel require appropriate training and must coordinate procedures for interacting with the LBDT to include sample collection, submission, preservation, and shipment.

5.2.4.2. All team members who are required to wear respirators in their roles must enroll in the RPP managed by BE. Requirements include completing a medical questionnaire, medical approval, and fit-testing for tight-fitting respirators. AS 886I provides tight-fitting, disposable particulate filter masks (N-95). Contact BE for more information.

5.2.4.3. All active duty biomedical laboratory officers (43T3X), enlisted medical laboratory personnel (4TX), and government or civilian medical laboratory personnel must be competently taught the appropriate handling of clinical and environmental samples processed by the LRN and LBDT. This training must be documented in the appropriate training record. State health laboratories may provide formal training classes for personnel in LRN reference laboratories. Competency assessments will be conducted in the same manner as other sets of clinical protocols. The CDC will provide reagents to reference and national laboratories.

5.2.4.4. LBDT personnel must be trained on all LRN sentinel procedures. The LBDT chief must ensure that all personnel assigned to perform LRN duties have been trained in the CDC technical protocols, notification procedures, and procedures to properly ship clinical and environmental samples. All of the necessary protocols are available from the American Society for Microbiology (ASM) website at following URL: http://www.asm.org

5.2.4.4.1. The CDC will distribute periodic proficiency testing (PT) samples to all LRN reference and national laboratories. The CDC does not distribute PT samples to LRN sentinel laboratories.

5.2.4.4.2. The College of American Pathologists (CAP) distributes a Laboratory Preparedness Survey (LPS) that encompasses the LRN sentinel protocols. Each Air Force medical unit that maintains an advanced clinical sentinel capability must participate in the LPS survey.

5.2.4.5. The LBDT chief must ensure that all personnel who perform sample testing using JBAIDS and M1M receive appropriate training. Personnel assigned to the LBDT must be competently trained in the safe handling, processing, testing, and analysis of samples (both clinical and environmental) suspected to contain BTAs. This training must be documented in the appropriate training record.

5.2.4.5.1. The U.S. Army Medical Department Center and School (AMEDDC&S) has been designated as the lead agent in establishing and conducting the JBAIDS Operating Training Course. All LBDT personnel assigned to use JBAIDS must attend this 10-day training course and provide a copy of their training certificate to their respective MTF medical readiness section. JBAIDS training must be documented in each person's respective training record and MRDSS. See the *Joint Tactics, Techniques, and Procedures for the Joint Biological Agent Identification and Diagnostic System (JBAIDS)* (JBAIDS Joint TTP), Version 2.2.0, for more information.

5.2.4.5.1.1. The JBAIDS PT program is administered by AFIP. The structure of this PT program parallels the CAP program. All LBDTs are required to participate in this PT program IAW AFI 41-106. Results of the PT program are reviewed and certified by the DOD Center of Clinical Laboratory Medicine. LBDT chiefs are required to submit PT results to their respective MTF MRC.

5.2.4.5.1.2. Competency testing is a key component to maintaining laboratory skills and ensuring accurate results. Each installation should develop a competency testing program that meets the recommendations set forth in the JBAIDS Quality Assurance Plan (QAP) version 1.2. Competency testing should be incorporated into each MTF's monthly RSV training and documented in each operator's training record.

5.2.4.5.2. Personnel assigned to the LBDT, and at installations with an M1M, will be competently taught the appropriate handling of clinical and environmental samples that may be tested using the M1M. M1M training is conducted by the Army Medical Dept Center & School (AMEDDC&S) at Fort Sam Houston, TX. M1M training may also be conducted on-site via train the trainer. All trained operators must provide a copy of their training certificates to their respective MTF medical readiness section. M1M training should be documented in each person's respective training record and MRDSS. For more information on M1M training, contact AMEDDC&S at DSN 471-7702.

5.2.4.5.2.1. The M1M PT program is administered by the Armed Forces Institute of Pathology (AFIP). The structure of this PT program parallels the CAP program. All LBDTs are required to participate in this PT program IAW AFI 41-106. Results of the PT program are reviewed and certified by the DOD Center of Clinical Laboratory Medicine. LBDT chiefs are required to submit results of the PT to their respective MTF MRC.

5.2.4.5.2.2. Competency testing is a key component in maintaining laboratory skills and ensuring accurate results. Each installation with MIM assets should develop an M1M competency testing program that evaluates each trained operator at least every other month. Competency testing should be incorporated into each MTF's monthly RSV training and documented in each operator's training record.

5.2.5. Nursing Services (886D), Field Response (886J), Triage (886K), Clinical (886L), and Manpower/Security (886M) Teams. MCRP team training is driven by local installation requirements. Training requirements should be tailored to meet identified vulnerabilities, threats, and planned response. Training should encompass management of casualties (including CBRN casualties) in the medical unit, awareness of the types of disasters the medical unit might expect, and protection and decontamination of medical personnel, patients, and medical facilities during CBRN conditions.

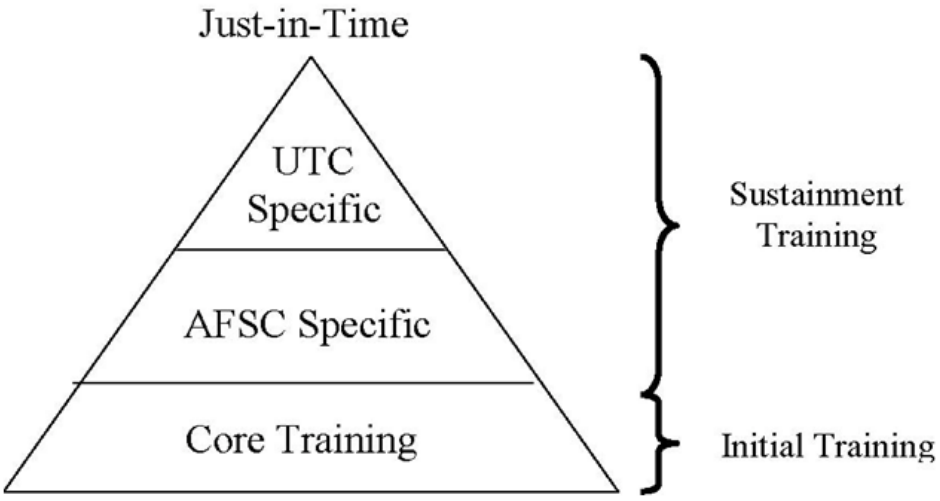
5.2.5.2. Some positions may require professional medical training such as Advanced Trauma Life Support (ATLS), Advanced Burn Life Support (ABLS), Trauma Nursing Core Course (TNCC), and Basic Life Support (BLS) as prerequisites for the positions.

5.2.5.3. Team chiefs should ensure all team members who are required to wear a respirator enroll in the RPP managed by BE. Before wearing respirators, team members must complete a medical questionnaire, receive medical approval, and complete fit-testing for tight-fitting respirators. AS 886K and M provide loose-fitting (hooded) PAPR respirators for the triage and manpower/security teams; and AS 886L provides N95 air filtering masks for the clinical teams .

5.2.5.4. Recurring training should be accomplished as part of routine readiness training and exercises. This on-going training may be used to meet recurring annual first receiver awareness and operations level training requirements (when applicable) and must be documented.

5.3. Training Categories. The full spectrum of requisite CBRN training encompasses a combination of core skill requirements and mission-specific or UTC-specific requirements. The education and training phases for Air Force medical personnel begin with the initial training received upon entry into the service and continue with periodic refresher training throughout the member's service. Figure 5.1 depicts the three phases of training: initial training, sustainment training, and just-in-time (JIT) training.

Figure 5.1. Training Phases



5.3.1. Sustainment Training. Sustainment training is required at a specified frequency to maintain or enhance the proficiency of individual readiness, clinical, and unit/platform skills. The level of proficiency needed to maintain currency in CBRN-related skills and the criticality of the skill determines the frequency of training. Sustainment training focuses on Air Force Specialty Code (AFSC)-specific and UTC-specific requirements.

5.3.2. Job Function and Unit-Specific Training. Several venues for AFSC-specific and UTC-specific training requirements are available to medical personnel. Formal courses as well as distance-learning courses provide an opportunity for a standardized approach to training. Maximum utilization of distance learning capabilities can play an integral role in reducing temporary duty (TDY) costs and time away from the installation. Reference materials are incorporated as needed to augment initial and sustainment training.

5.3.3. Just-in-Time Training. Although JIT training is a component of education and training, it is not the optimal or desired method of training. It may not be of value for MC-CBRN response as there is no spin-up time when an event takes place. However, there may be circumstances when it is applicable and can provide immediate reinforcement of critical skills (e.g., how to wear respirators, proper inspection of PPE, and use of auto-injectors).

5.4. Professional Training Requirements. The following courses may be required for professional training:

- ABLS–Advanced Burn Life Support
- ACLS–Advanced Cardiac Life Support
- ATLS–Advanced Trauma Life Support
- BLS–Basic Life Support
- FMCBC–Field Management of Chemical and Biological Casualties
- MMCBC–Medical Management of Chemical and Biological Casualties
- MEIR–Medical Effects of Ionizing Radiation

- NETOPS–Nuclear Emergency Team Operations
- PHTLS–Pre-Hospital Trauma Life Support
- TNCC–Trauma Nursing Core Course

5.5. Field Exercises. Field exercises are training conducted outside the classroom, normally employing MC-CBRN AS equipment and supplies under simulated CBRN conditions. Exercises should simulate and help determine and document proficiency for all aspects of the response phase of a CBRN operation. Essential elements of the exercise include C2, threat assessments, CBRN identification, HRAs, laboratory analysis, triage, decontamination, treatment, transportation of casualties, and targeted recovery operations.

5.5.1. CBRN Exercise Requirements. It is critical for medical units to conduct or participate in CBRN exercises to ensure all elements of the medical unit's CBRN response capabilities are well integrated and functional. Medical unit commanders should take advantage of every opportunity to participate in installation-wide CBRN exercises. AFI 41-106 and AFI 90-201summarizes requirements. MCRP team chiefs should provide team-specific MC-CBRN inputs and scenarios to the medical EET chief to ensure that MC-CBRN scenarios are added to the master events sequence listing for these exercises.

5.5.1.1. CBRN exercises must include testing and evaluation of all MCRP teams and their responsibilities. Scenarios designed to evaluate medical CBRN response must include wearing of PPE for those teams assigned protective suit ensembles. (For AFRC, teams should exercise with AS 886H training PPE).

5.5.1.2. Response to a CBRN event requires many of the same response actions as other types of incidents; however, responders must also establish and maintain a chain of custody for evidence preservation as directed by the IC. Additionally, responders must be alert for physical indicators and other outward warning signs of additional CBRN incidents and the potential for secondary attack.

5.5.1.3. Exercise scenarios must include all areas of the medical unit that are involved in a CBRN incident and include sampling, risk assessment, and risk communication tasks. Scenarios should incorporate the tasks, roles, and responsibilities of the various MCRP teams that are responsible for MC-CBRN AS, as described in Chapter 1 of this AFTTP. For example, an all-hazards scenario involving a credible BW agent should test laboratory capabilities and interactions with local, state, and federal agencies.

5.5.2. Patient Decontamination (886A) Exercises. Hands-on realistic training is essential for patient decontamination team proficiency. Ongoing training should be accomplished as part of routine readiness training/exercises. Joint training (recommend quarterly) with the triage and manpower/security decontamination support teams is conducted to ensure integration of activation procedures and response actions. Ongoing training must be used to satisfy annual HAZWOPER training requirements and team member competencies must be documented. Training topics at joint training/exercises include triage of contaminated casualties, wound and airway management during decontamination, and nerve agent symptoms and antidotes.

5.5.2.1. The patient decontamination team chief should capture problems and lessons learned during the exercises and report findings and planned courses of action to the MR office and ultimately to the pilot unit through the MC-CBRN MRA, HQ ACC/SG.

5.5.2.2. The patient decontamination team chief should make every effort to work with the installation EET members to incorporate the patient decontamination team into installation-wide exercises. The use of moulage casualties and scenarios involving CBRN or industrial chemical incidents are highly encouraged during these exercises. EET members must be well versed in procedures involving medical response to CBRN incidents. If not, they should attend Air Force or DOD courses in these topics to bolster their knowledge and the value of their evaluation, and they should use the Exercise Evaluation Guides (EEGs).

5.5.3. Pharmacy Team (886E) Exercises. The pharmacy team must participate fully in medical unit exercises IAW AFI 41-106. The pharmacy team must conduct at least one drill annually to test procedures for dispensing and inventory tracking of AS 886E and augmentation with on-hand CBRN applicable POS pharmaceuticals.

5.5.3.1. The pharmacy team chief should capture issues for actions identified during exercises and drills and report findings and planned courses of action to the MRC.

5.5.3.2. The pharmacy team should develop an expedient orientation and education package for augmentation personnel.

5.5.4. Bioenvironmental Engineering Team (886H) Exercises. BEE team personnel must fully participate in medical unit and installation exercises. BEE team personnel should focus on the transport and deployment of AS 886H, test procedures for proper equipment and instrument utilization, re-supply issues, and inventory tracking of all AS items.

5.5.4.1. The BEE team chief should coordinate with the installation EET chief to ensure maximum participation of the BEE team is incorporated into each exercise.

5.5.4.2. Table top exercises (TTXs) may be considered in lieu of field exercises where severe weather is a factor during winter months and outside exercises may not be feasible. TTXs are excellent training tools for new response team members and allow discussion of practical on-scene problems before actual application.

5.5.4.3. The BEE team chief should capture issues for action identified during exercises and drills and report findings and planned courses of action to the MR office.

5.5.4.4. BEE team personnel must participate in the proficiency analytical testing (PAT) and other similar tools that may be developed.

5.5.5. LBDT (886I) Exercises. LBDT personnel must fully participate in medical unit and installation exercises.

5.5.5.1. The LBDT chief should coordinate with the installation EET chief to ensure maximum participation of the LBDT is incorporated into each exercise.

5.5.5.2. LBDT personnel should focus on activation of AS 886I, test procedures, instrument use, re-supply issues, and inventory tracking of all AS items.

5.5.5.3. The LBDT chief should capture issues for action identified during exercises and drills and report findings and planned courses of action to the MR office.

5.5.5.4. LBDT personnel must participate in proficiency testing programs for JBAIDS and M1M if applicable.

5.5.6. Nursing Services (886D), Field Response (886J), Triage (886K), Clinical (886L), Manpower/Security (886M), and Public Health (886P) Teams. These teams have no specialized exercise requirements beyond the requirements outlined in paragraph 5.5.1.

Chapter 6

COMMUNICATIONS AND INTELLIGENCE

6.1. Communications Flow. Timely and accurate information must flow between the MCRP teams in the field and the IC. The IC is responsible for relaying this information to the EOC director. The EOC director is responsible for communicating the MCRP team's needs to the ESF #8 and ESF #11 representatives, who then relay this information to the MCC to ensure that the CBRN event Incident Action Plan (IAP) objectives are met. Incident communication may include information and requests necessary to prepare for incoming patients, provide patient and equipment status reports, request additional resources (e.g., personnel, supplies, equipment), and request mutual aid support from community emergency response resources. Communications plans should be detailed in the MCRP.

6.2. Communication Systems and Methods. The MCC must be kept informed of the location and actions of all teams. At least two methods of communicating with the MCC must exist. Communications systems should be redundant and have the ability to communicate across all response agencies. Communications discipline must be practiced and maintained. Field treatment and initial response teams should use on-scene direct communications with the IC as their primary communication method. All other MCRP teams should use various other methods (e.g., radios, phones, email, runners), as appropriate, to communicate with other teams that operate in and just outside the medical unit.

6.2.1. Outside Communications. Support from other installation agencies, community partners, and other response personnel and organizations must be requested through the EOC. However, the MCC should be the focal point for all communications within the medical group. All communications should be documented in an events log (paper or electronic) that is maintained by the MCC.

6.2.2. Laboratory Information Systems. The LBDT is equipped with laptop computers that are loaded with the appropriate JBAIDS and M1M software. Acquisition of additional communication and computer equipment is not specifically required to support the activation of the LBDT. The team will use existing information systems to capture pertinent data and detail incident logs and other requisite information to support up- and cross-channel reporting IAW Air Force and MAJCOM directives. The LBDT requires inter-team communication and two-way communication with other medical and non-medical functions. Laboratory directors must keep their medical chain of command informed of sample status and test results. They must also communicate with appropriate local and regional public health laboratories as well as other military laboratories for referral testing.

6.2.3. Communications Security. Due to the sensitive nature of suspicious CBRN sample results collected by the BEE team, COMSEC and OPSEC field communication requirements, (i.e., iridium phone with secure communications) must be considered and discussed within initial response plans. The BEE team must have access to secured communication capabilities (STE and SIPRNET), and team members must hold a secret clearance or higher to ensure access to appropriate intelligence.

6.3. Intelligence Support. Timely, accurate intelligence support is critical to MC-CBRN readiness. The PHO (or experienced PH non-commissioned officer [NCO]) maintains a working relationship with other installation intelligence personnel. Information regarding CBRN threats must be communicated among MCC and MCRP team chiefs to ensure readiness for response operations. The BE and PHO team chiefs should be members of the installation's threat working group (TWG) and/or force protection working group.

6.4. Response to Intelligence. Intelligence about CBRN threats and incidents may originate from a variety of military sources, civilian sources, and threat and vulnerability assessments. Military intelligence sources include the intelligence officer (IN), security forces squadron (SFS), AFOSI, and CE Readiness and Emergency Management flight). All pertinent information should be forwarded immediately to the installation intelligence office, which is responsible for reporting the information by secure means to the MAJCOM.

6.4.1. MCRP Team Chiefs. MCRP team chiefs review threat and vulnerability assessments and are responsible for the following activities:

6.4.1.1. Be fully cognizant of current and potential threats to supported installations due to military or commercial HAZMAT operations. This information is available from the BE in the form of an unclassified summary of the TIC/TIM vulnerability assessment. Results of medical unit and supported installation vulnerability assessments should be reviewed to identify critical failure nodes within the healthcare system.

6.4.1.2. Through the MRO, and in conjunction with the PHO, BEE, and PHEO, determine readiness based on credible threats; anticipated numbers of casualties requiring triage, decontamination, treatment, and transport; and potential populations at risk. Determine requirements for mass prophylaxis, other preventive measures, and/or response efforts in the event of a CBRN event.

6.4.2. MC-CBRN Assets. If intelligence indicates a high probability of an attack involving CBRN, the MCRP teams with MC-CBRN AS assets must ensure team members, equipment, and assigned PPE are pre-staged or prepared for immediate use. For inpatient facilities, during high probability situations, the stock of AS 886D supplies must be readied for use.

Chapter 7

PATIENT DECONTAMINATION

7.1. Introduction. During a CBRN event, each medical unit must ensure patients are decontaminated before entering the medical unit. Each medical unit must maintain an in-place patient decontamination capability organically, through MAAs, MOAs, or MOUs with other organizations (e.g., fire department), or a combination of both. At the beginning of an emerging incident, CBRN contamination screening of patients/casualties should be initiated to protect the medical capabilities of the medical facility and its staff. The medical unit may use the patient decontamination area or a fixed facility engineered decontamination capability. This chapter outlines the procedures for the patient decontamination team. It describes the initial patient decontamination team's response at a fixed medical unit following an incident involving CBRN agents whether it is as a result of intentional acts, natural disasters, or peacetime accidents such as an industrial chemical spill. (See Chapter 16 for ANG patient decontamination capabilities.) (Not applicable to AFRC medical units.)

7.1.1. Patient Decontamination Team Overview. As referenced in HQ USAF/IL message [DTG R262038Z Apr 99], *Weapons of Mass Destruction (WMD) Threat Response for US Air Force Installations*, CBRN victims are normally decontaminated on-scene by the fire department, but "medical facilities will designate patient decontamination areas and plan for the decontamination and treatment of CBRN casualties." This team provides decontamination capabilities at the medical unit for CBRN victims who self-present or are transported to the medical unit for definitive medical care and may have by-passed decontamination at the scene.

7.1.1.1. The team must be ready to respond and function whenever the medical unit is open for emergency care of patients. At all other times (e.g., if the facility closes at nighttime), contaminated patients may have to be transported directly from the field decontamination site to other military or civilian facilities for further decontamination and medical treatment.

7.1.1.2. The team provides the capability to remove or neutralize agents on casualties of an incident involving CBRN. The overall goals of the team are to (1) protect the medical treatment personnel and facility, (2) save lives, and (3) protect the environment.

7.1.1.3. With the exception of ANG patient decontamination teams, Air Force patient decontamination teams are a non-deployable, organic medical asset. This capability should not be confused with UTC FFGLB, Patient Decontamination Team, UTC FFGLC, Patient Decontamination Equipment, or installation HAZMAT decontamination teams. **Note:** ANG team assets may be tasked by the state for off-installation response during state declared emergencies.

7.1.1.4. The team is intended to fulfill the requirement for medical units to effectively respond to a CBRN incident, including those resulting from TIC/TIMS, with tailored, fast, light medical decontamination capabilities.

7.1.2. Assumptions. The patient decontamination team is equipped and staffed to decontaminate victims who self-present after fleeing the scene of an incident or patients who require further cleaning after gross decontamination by the fire department before they enter the medical unit. The team is specifically designed for decontaminating patients at the medical unit. Personnel at the incident site are expected to process through the fire department's decontamination process at the scene. The team operates on the assumption that gross contamination will be left behind at the scene and only minimal contamination will arrive at the medical unit.

7.1.2.1. To continue medical operations following CBRN incidents, it is imperative to decontaminate individuals before they enter the medical unit. If the medical unit becomes grossly contaminated, alternate medical facility plans may become necessary, causing serious logistical problems, delays, and possible loss of life.

7.1.2.2. Typically, when a contamination incident occurs, victim exposures range from severe to mild (possibly only psychosomatic). Victims with high exposures may collapse at the incident scene, while victims with mild exposures may depart the scene and seek medical attention immediately or later in the course of events.

7.2. Capabilities and Limitations. AS 886A provides enough PPE to support 24 personnel. A minimum of 12 trained medical personnel are needed to run a patient decontamination facility at any one time. Medical unit commanders must designate a large enough pool of personnel to ensure at least 12 trained team members are available to set up, man, and process casualties whenever the need arises, and to help manage heat stress through rotation. Patient decontamination operations are exhausting and PPE can cause heat-related injuries. Alternating shifts of personnel are required to avoid early team exhaustion and decreased performance. See attachment 4 for additional guidance on work-rest cycle rotations.

7.2.1. Decontamination Capability. A fully manned (12 personnel), well-trained team can decontaminate 6-10 litter patients and 10-15 ambulatory patients per hour for a typical scenario, depending on environmental conditions. The time to decontaminate will vary depending on the type of contaminant and methods required to accomplish decontamination.

7.2.2. Allowance Standard. AS 886A provides stand-alone capability to decontaminate a maximum of 100 people (based on supplies). This capability will be sufficient for the first few hours of operations. After that time, the team should plan to use organic assets (towels, gowns, gloves, etc.) for further operations. The patient decontamination system consists of a tent, floor, and runoff-containment system and additional decontamination materials. When deployed with a well-trained, fully manned team, the patient decontamination system can be mission capable within 15 minutes of assembling. This includes having the decon shelter up (flooring, roller system and curtains); having the primary run-off control in place, i.e. the tent berm; having the water heater hooked up and providing warm water through the shower heads; and having at least four personnel in full PPE prepared to handle arriving patients. They can be fully operational within 20 minutes of assembly, to include set-up of waste

water bladder, 12 personnel in full PPE, etc. (**Note**: Decontamination can be started before the tent and equipment are fully erected.)

7.2.3. Large-Scale Incidents. Authorization levels or in-stock quantities for AS 886A may be insufficient to sustain immediate response (defined as the first 24-hours) for some types of CBRN incidents. When there are insufficient equipment and supply stock quantities on hand for an adequate response, the team chief should inform the medical unit commander and make recommendations for the procurement of additional equipment and supplies required to sustain operations during such incidents. In instances where large numbers of patients self-present to the medical unit and overwhelm the team's capabilities for technical decontamination, the best strategy may be to conduct mass or gross decontamination to include clothing removal and self-decontamination (e.g., using skin decontamination kits, water hoses). If possible, also consider the option of converting the tent into a 4-line shelter to accommodate more ambulatory patients.

7.2.4. Decontamination Limitations. CBRN agents may not be completely removed or neutralized during the decontamination process. Many CBRN agents, once inhaled or ingested, cannot be neutralized internally without comprehensive medical intervention, if at all. Some equipment items will not be salvageable after CBRN contaminant exposure. Items absorbent in nature (i.e., cloth, canvas, wood, some paints and even some silicone-based items) cannot always be decontaminated and will have to be disposed of once contaminated. The team chief must weigh the value of contaminated items and the cost in time and effort before attempting to decontaminate. Medical logistics facility management personnel must coordinate disposal of potentially contaminated materials through the BE and Installation Management Flights IAW AFI 41-201, *Managing Clinical Engineering Programs,* and AFI 32-7042, *Waste Management*.

7.2.5. Waste Disposal. A plan of action for proper treatment and disposal of decontamination wastewater and other potentially contaminated materials must be developed and included in the MCRP.

7.2.6. PPE. Patient decontamination team members wear Level C PPE, comprised of a Disposable Toxicological Agent Protective System (DTAPS) and 3M PAPR with butyl rubber hood. AS 886A includes a training suit (white) that should be used for training and exercises so the DTAPS (green) can be saved for real-world responses. The PAPR generates noise within the protective hood, making all voice communications challenging. Level C PPE is adequate for personnel performing decontamination at the medical unit away from contamination at the incident scene. As with all CBRN PPE, the potential for heat injury is a serious limiting factor for team members. The team chief must encourage the consumption of fluids and rotate members before they succumb to the effects of heat stress. Before team members don PPE, the team chief should also conduct medical screening, to assess individual health status to determine any medical conditions of individuals who may be ill or injured, getting over an illness, or on any medications that may impact their ability to perform in Level C. See attachment 4 for additional guidance on performing medical assessments. Team members leaving the area for a break or rotation must properly decontaminate themselves and each other before exiting and doffing their PPE. See

attachment 4 for proper self decontamination and doffing of PPE. Once the contingency response has concluded, consult with Bioenvironmental Engineering to determine if the suit and hood can be decontaminated and reused or to determine proper disposal. All opened filters must be disposed of properly. The HAZMAT boots can be decontaminated by soaking in a 5% bleach solution for 24 hours. The 3M hood and PAPR must be inspected every 30 days, to include a PAPR flow check, hood integrity check, etc., with documentation on AF Form 1071, Inspection/Maintenance Record.

7.3. Concept of Operations. The patient decontamination teams' primary mission is to remove surface CBRN and industrial contamination from patients at the medical unit to protect the staff and the medical unit, as well as the patient. This process should be viewed as a qualitative process rather than a quantitative one (i.e., every trace of CBRN contaminants may not be removed in this process). The objective is to remove and/or neutralize the bulk of contaminants, thus reducing further agent exposure for the contaminated patient, attending medical personnel, and other medical assets. It is not necessary to quantitatively verify the effectiveness of the team during CBRN incidents and exercises. Monitoring patients after they have been decontaminated to determine if they have been quantitatively decontaminated sufficiently enough, if done correctly, will unnecessarily delay patient treatment and contribute to shock, hypothermia, bleed-out, etc. Proper decontamination procedures to include clothing removal, which removes 75-90 percent of contaminants, should minimize risks sufficiently enough that delaying patient care through monitoring is an unnecessary risk.

7.3.1. Hospital Decontamination Zone. The team decontaminates victims at the medical unit in an area unaffected by the initial contamination release. This area is referred to as the hospital decontamination zone. The hospital decontamination zone includes any area where the type and quantity of hazardous substances are unknown and where contaminated victims, contaminated equipment, or contaminated waste may be present. It is reasonably anticipated that employees in this zone might have exposure to contaminated victims, their belongings, equipment, or waste. This zone includes, but is not limited to, places where initial triage and/or medical stabilization of possibly contaminated victims occur, pre-decontamination waiting (staging) areas for victims, the actual decontamination area, and the post-decontamination victim inspection area. This area typically ends at the emergency entrance to the facility. In other documents, this zone is sometimes called the warm zone, contamination reduction zone, yellow zone, or limited access zone.

7.3.2. Activation. The team will activate whenever there is a suspected or confirmed CBRN event to provide adequate setup time, which is critical to timely patient processing. The team serves as the gatekeeper of the medical unit when contaminated patients present. The team is part of a three-way activation in which the patient decontamination, triage, and manpower/security teams (to include the manpower/security decon support team) are all activated simultaneously. FRT, ambulance services, emergency department, and MCC protocols and checklists should be updated to reflect this policy.

7.3.2.1. Upon activation, the team dons PPE within the MTF, and the equipment is removed from its storage location and assembled as outlined in Attachment 3. The primary triage team and manpower/security teams perform triage and crowd/traffic

control, respectively, during initial setup and throughout decontamination operations. **Note:** PAPRs should be pre-assembled and stored in a ready-to-go mode. Flow checks should be conducted monthly to ensure PAPR is operational, and batteries should always be kept charged.

7.3.2.2. When the team is activated, weather conditions must be assessed and consideration for an alternate location due to conditions may be required. This assessment should be reported to the MCC, as well as a request for additional personnel, if needed.

7.3.3. Medical Unit Security. The patient decontamination system must be enclosed by a medical unit security perimeter to prevent the possibility of bystander exposure to off-gassing or residual CBRN agents. A request can be made for SF support to assist with area security and crowd and vehicle control. However, in the event of a CBRN terrorist event on the installation, SF personnel will likely be engaged elsewhere. During a CBRN incident, access to the medical unit must be controlled. Entry doors must be immediately secured to ensure no one enters the medical unit without undergoing an assessment to determine if they need decontamination. Medical units must develop local plans to secure entryways and, if necessary, post guards as soon as a CBRN incident is suspected. The manpower/security team should post signs at all entrances directing patients to the sole medical unit entrance where the patient decontamination equipment is set up.

7.3.4. Decontamination Methods. The primary decontamination methods involve clothing removal and skin washing using soap and water. Reactive skin decontamination lotion (RSDL) is approved by FDA and can be used for neutralization of CW agents or for self decontamination while awaiting more technical decontamination. However, RSDL is not currently approved for whole body decontamination and is not recommended for decontaminating wounds because it may prevent wounds from healing properly. See Attachment 4 for specific procedures.

7.3.4.1. The team will remove all clothing and personal effects from victims, including all identifying information, during the decontamination process. The team should place all of these items into individually labeled plastic bags for processing later. This processing may include decontamination and retrieval of valuables and the possible assessment by law enforcement agencies for evidence if a criminal act has occurred. Depending on the nature of the incident, this procedure may be performed by outside agencies that arrive later and provide follow-on assistance.

7.3.4.2. The triage team (primary and secondary triage teams) sort patients based on medical needs and provide emergency stabilization of wounded and ill victims. The primary triage team triages victims, provides wound/airway management, determines which victims require decontamination, and administers nerve agent antidotes (if appropriate) before victims enter the patient decontamination system for decontamination. Depending on signs and symptoms, patients arriving from the field who have been grossly decontaminated should either be directed to the patient decontamination area or routed directly to the facility. The secondary triage team re-

triages victims after they process through the patient decontamination system. Young children may need to receive higher priority for triage and decontamination because their conditions may deteriorate faster than adults.

7.3.5. Cold Weather Decontamination. Concerns have been raised about how to conduct patient decontamination at locations subject to extreme cold temperatures (e.g., Alaska, Korea, northern tier bases, and other locations that may encounter challenges with patient decontamination during the colder winter months). While toxic industrial chemicals (TICs) become less volatile the colder it gets, there is still a risk to patients, responders, and the medical facility, especially if the chemical contaminant is tracked indoors where warmer temperatures can re-volatilize the contaminant. Some CW agents are specifically designed to be effective and lethal at extremely cold temperatures. Regardless of outdoor temperatures, it is still critical to decontaminate patients as soon as possible to minimize risks and contamination of medical facilities. The first important step in patient decontamination is the removal of all clothing before patients are transported and before they enter any facility for showering, especially if clothing is contaminated with chemicals. The shedding of contaminated clothing removes from 75-90 percent of the contaminant. Ideally, the next step is to decontaminate patients with copious amounts of water and soap. At temperatures less than 64 degrees Fahrenheit, there are risks of cold shock (leading to cardiac arrest), hypothermia, and patient refusal due to discomfort. At temperatures less than 35 degrees Fahrenheit, these risks become greater. In addition, there are strong likelihoods of equipment failure due to freezing water (e.g., in the sprayers) and creation of safety hazards from slippery surfaces due to ice formation. The key to dealing effectively with cold weather patient decontamination is to develop a cold weather decontamination plan based on local assets and conditions, incorporate those plans into the local MCRP and the Installation Emergency Management Plan, and exercise the plan.

7.3.5.1. The following procedures are recommended at temperatures between 36-64 degrees Fahrenheit:

7.3.5.1.1. Ensure the water heater is working effectively to warm the water used for decontamination. Maintain the water temperature at 85-90 degrees Fahrenheit.

7.3.5.1.2. Use heated blowers to warm up the patient decontamination tent. This equipment is available from flightline maintenance and CE shops. Coordinate requests through the Emergency Operations Center.

7.3.5.1.3. Ensure patients are promptly wrapped and taken into a heated facility, such as the medical facility. Consider increasing the number of blankets on hand or acquire heated blankets such as those used for patient airlift.

7.3.5.1.4. Establish a wind block between the decontamination tent and the medical facility using tarps, blankets, etc. At a minimum, the wind block should be at least 6 feet tall to be effective and should be properly weighted down for safety reasons.

7.3.5.2. The following procedures are recommended at temperatures less than 35 degrees Fahrenheit:

7.3.5.2.1. Move the wet decontamination process indoors (e.g., an indoor pool facility, a gym with showers and/or heated pool, a heated garage or ambulance bay in the medical facility). Even if not heated, an ambulance bay should be about 10 degrees warmer than outside temperatures and gets patients out of the elements. (**Note:** Patients should shed contaminated clothing before entering an indoor facility.)

7.3.5.2.2. Use dry decontamination methods instead of wet decontamination methods. For example, after removing contaminated clothing, have patients use RSDL (currently on AS 886A), flour, paper towels, or other available materials. Follow up dry decontamination procedures whenever possible with a shower in a heated facility.

7.3.5.2.3. When temperatures are too extreme to use water, the decon tent can be used as a heated shelter for patients to remove contaminated clothing and to perform dry decontamination methods before they enter a heated facility. Also consider increasing the number of blankets on hand.

7.3.5.2.4. Prioritize patients exhibiting symptoms and special populations such as the elderly and very young since they all have limited or impaired ability to maintain body temperatures.

7.3.5.3. For additional information on decontamination in cold weather environments, see U.S. Army Solider and Biological Chemical Command (SBCCOM) publication, *Guidelines for Cold Weather Mass Decontamination During a Terrorist Chemical Agent Incident*, as well as the *OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances*.

7.3.6. Counter-Radiological Warfare Considerations. Existing patient decontamination procedures are valid for radiological incidents. Ensure that effluent containment requirements, as determined by the local CE environmental office, are included in local plans and checklists (i.e., Annex N). Also include radiological dose tracking procedures for first receivers as determined by the Installation Radiation Safety Officer (IRSO). Consider all open wounds contaminated until proven otherwise. The first priority is to treat life or limb threatening conditions using standard precautions before patient decontamination. Otherwise, remove clothing and perform decontamination with soap and water before treatment.

7.4. Manning. During an attack, FPCON Delta may be declared, and entry routes into the installation may be shut off. Limited access and official Delta measures (e.g., vehicle inspections) may delay medical personnel. Some contaminants (i.e., nerve, blood, or blister agents) do most of their damage within the first few minutes of exposure, so time is of the essence. Medical units cannot depend on anyone from off-installation to be recalled to staff the patient decontamination team in time to provide any benefit to patients. Medics within the

medical unit must be trained and capable of taking immediate action to save lives and limit victims' exposure to these contaminants. The available pool of trained decontamination team members must be large enough to field a 12-person team, while accounting for leave, TDYs, and some personnel present for duty who cannot be contacted for immediate response. This goal can be accomplished by training a large number of medical unit personnel in patient decontamination. A minimum of 24 is recommended. Some medical units have chosen to accomplish this goal by training all medical unit personnel during medical unit in-processing upon permanent change of station (PCS). (**Note**: FFGLB and FFGLC are intended as deployable assets and are not considered to meet MC-CBRN patient decontamination requirements.)

7.4.1. Team Chief Assignment. Commanders will choose the most suitable person to act as the team chief. The team chief is responsible for training, maintaining supplies and equipment, and coordinating realistic exercise scenarios. In the absence of the team chief, the most senior person present who has been trained in patient decontamination operations will assume this role, as it may not be practical to wait for a team chief (e.g., due to leave, TDY, geographically separated).

7.4.2. FRT and BE Roles. FRT and BEE team members may be trained but not formally assigned to the patient decontamination team. These two teams have specific responsibilities at the CBRN incident scene and are unable to provide patient decontamination support at the medical unit.

7.5. Integration. Medical unit response planning must include integration and coordination with other medical unit and installation decontamination capabilities, as well as follow-on capabilities from local, state, tribal, and federal agencies.

7.5.1. Horizontal Integration. Patient decontamination team planning should be coordinated with other medical unit/non-medical unit teams responsible for decontaminating self-presenters at the medical unit or victims at the incident site. All interactions with other response organizations or work centers within the organizations should be coordinated through the MCC. Medical unit teams supporting this function are described in the MCRP and include the following:

7.5.1.1. Manpower/security teams that may be required to provide additional personnel to supplement patient decontamination team members.

7.5.1.2. Primary triage teams that will be posted to triage casualties before being processed through patient decontamination and secondary triage teams that will receive casualties.

7.5.1.3. Manpower/security team personnel who will be posted at medical facility entrances to provide entrance control.

7.5.1.4. Decon support team personnel (a subset of the manpower/security team) who will provide crowd control and vehicle control support, establish single entry and exit points to the medical unit, and assist ambulatory and non-ambulatory patients.

7.5.1.5. Medical unit security resources may also be required to secure AS 886A assets, provide crowd control, and control entry into the patient decontamination system.

7.5.2. Vertical Integration. All communications and requests for assistance or information by or to higher echelon or supporting Air Force or DOD commands, as well as state, tribal, or federal follow-on resources must be coordinated through the EOC by the MCC. The patient decontamination team must not communicate directly with outside agencies without prior approval from the MCC.

7.5.3. Additional Resources. The acquisition of additional services, equipment, and supplies in a CBRN event may be necessary when there is a depletion of AS 886A. Installation WRM caches (upon approval) and any additional personnel needed to support the patient decontamination mission should be acquired from the medical unit or through outside assistance (i.e., community EMS, National Disaster Medical System [NDMS], or healthcare facilities).

7.6. Equipment and Supplies. AS 886A is designed to provide the equipment and supplies for the team to decontaminate litter and ambulatory patients. The patient decontamination system consists of a tent, floor, shower system, runoff-containment system, and decontamination supplies. (**Note**: The medical unit may use the patient decontamination shelter or a fixed-facility engineered decontamination facility.) This AS includes the following sub- assemblages:

- Sub-assemblage PD–Patient Decon
- Sub-assemblage S1–Safety

7.6.1. Water Supply. The patient decontamination package requires access to a fire hydrant and an electrical outlet (110v, 16 amp, ground fault circuit interrupter [GFCI] protected) located within 100 feet of the intended setup site. (**Note:** The intended setup site should be as close in proximity to the MTF as feasibly possible to shorten the distance that patients have to be transported after decontamination.) To connect the water system to a standard American hydrant, a 2.5–1.5 inch adapter and two 50-feet by 1.5-inch hoses are required. The water heater has a built-in check-valve to prevent backflow. However, some states require backflow prevention at the source (between the hydrant and the fire hoses). Installations that require backflow prevention devices may need to obtain or purchase one locally. Consult the base CES Operations Flight to determine if one is required.

7.6.2.1. AFI 32-1066, *Backflow Prevention Program,* requires the method of connection to be coordinated with the installation's cross-connection and backflow prevention program manager. (Contact BE or the CES Operations Flight for information.)

7.6.2.2. The intended use of a designated fire hydrant as the water supply should be coordinated with the installation fire department.

7.6.2.3. Patient decontamination team training should include instruction on how to flush and connect to a hydrant.

7.6.2. Local Considerations. AS 886A is comprehensive, but every item may not be needed at every installation. As an example, installations with suitable shower facilities adjacent to the designated entrance may only require the heater, run-off containment system, and privacy curtains. For one to two contaminated personnel, it may be more appropriate to use available eye wash/safety shower facilities, emergency room showers, or similar facility rather than the patient decontamination package. The equipment list is not all-inclusive for overseas locations. Additional items such as special fire hydrant adaptors (one standard adapter is on the AS), backflow preventers, and appropriate electrical connectors may be needed. ANG bases, which may be tasked with off-installation response, should maintain sufficient GFCI connectors to protect all electrical equipment used by the team.

Chapter 8

PHARMACY

8.1. Introduction. This chapter assists medical unit planners in developing a pharmacy team to respond to a CBRN incident, peacetime emergency response incident, or natural disaster and provides guidance on the management and employment of AS 886E. This chapter applies to all Air Force military and civilian personnel (including AFRC and ANG units and members that have the capability).

8.1.1. Pharmacy Team Overview. The pharmacy team must be able to respond and be functional at times when the medical unit is open for emergency care of patients and must integrate the CBRN pharmaceutical supplies from AS 886E into the capability of the FRT and clinical teams at the medical unit (AS 886J/K/L). This AS includes the following sub-assemblages:

8.1.1.1. The immediate medical response and nursing services sub-assemblages are designed for a broad range of chemical and biological threats.

8.1.1.2. The counter-radiation medications sub-assemblage provides pre-treatment with radioactive iodide, as well as treatment for severe radiation poisoning.

8.1.1.2.1. Potassium iodide is a countermeasure for a radiological release from a nuclear power plant or radiological dispersal device where an isotope of iodine was used. Current DoD policy for military installations is to ensure their plans have been coordinated with local and state plans which in turn follow the guidelines established by FEMA in its "Federal Policy on the Use of KI". Proximity to a nuclear power plant will be the driving factor in determining a medical unit's need for potassium iodide. Both FEMA and the Nuclear Regulatory Commission recommend a 10-mile emergency planning zone (EPZ) around a nuclear power plant. Within this 10-mile EPZ they recommend PI as an additional step to augment evacuation and shelter-in-place recommendations. Consult with the installation Radiation Safety Officer (IRSO) and with local and state emergency planners to determine the need to maintain PI. The final determination will be made by the MRC and MDG commander.

8.1.1.2.2. Ondansetron is a countermeasure for severe radiation exposure similar to the expected physiological effects caused by a nuclear detonation. Installations located near major metropolitan areas (such as Washington DC, Los Angeles, New York, Chicago) should consider carrying this countermeasure because these cities would be more likely to be targeted than smaller cities. AS quantities are based on up to 300 casualties. Local off-installation cancer centers may use ondansetron for treatment, and these centers can provide an excellent source for ondansetron rotation. The medical unit commander, IRSO, and pharmacy team chief will determine the level of capability needed. To preclude duplicate effort in response areas at

installations with nuclear assets, the pharmacy team should collaborate with local EOD personnel to determine stock levels for first responders.

8.1.1.3. The first responder countermeasure medications sub-assemblage provides antibiotics for prophylaxis or treatment, chemical agent antidotes, or radiation blocking agents for first responder protection.

8.1.1.4. The point of distribution sub-assemblage provides supplies and equipment for mass dispensing of prophylaxis.

8.1.2. Assumptions. A CBRN incident involving significant live casualties will result in a surge in the requirement for material support, including pharmaceuticals. Pharmaceuticals include antibiotics for prophylaxis or treatment, chemical agent antidotes, or radiation blocking agents, as well as agents for supportive care. Medical unit response planning must include integration and coordination with follow-on response capabilities from local, state, and federal agencies. Planning is based on the following assumptions:

8.1.2.1. POS will not be sufficient to respond to a CBRN event.

8.1.2.2. After the first 24 hours, additional federal, state, and local assets have arrived at the location of the incident and are functional. These resources include the SNS or Push Packs, if activated. However, U.S. government or host nation resources may be delayed more than 24 hours.

8.1.2.3. Inclusion of the installation housing population as part of the population served through SNS activation and/or mass prophylaxis must be coordinated by each installation with local community disaster response planners.

8.1.2.4. The SNS will be activated, if needed, using local community health department procedures as outlined in the MCRP.

8.1.2.5. Pharmaceuticals may be needed at the scene of an incident, at designated points of dispensing, at out-patient clinics, or at inpatient locations.

8.2. Capabilities and Limitations. AS 886E was established and funded to treat up to 300 CBRN casualties and 150 first responders following an event and to provide up to 5 days of prophylaxis medication for casualties and 30 days of prophylaxis medication for first responders. The 886E packages were developed with the expectation that 10 percent of casualties will be pediatric. Pharmaceuticals on this AS were selected to mimic, with some exceptions, the pharmaceuticals routinely stocked in medical units. This design allows for the rotation of these additional drugs within the POS to minimize expirations.

8.2.1. Responsibilities. The pharmacy team serves as the pharmaceutical logistics and supply center for all CBRN-related pharmaceuticals and is the single POC for acquisition of these supplies by all medical unit wards, clinics, points of dispensing, and installation medical responders.

8.2.1.1. During the initial phases of response operations, the pharmacy team chief should evaluate team capabilities within the context of overall health and medical services requirements. Execution of pharmacy team responsibilities depends on the specific type of event. If an overwhelming number of patients present, it is the medical unit commander's decision as to whether additional on-hand medical pharmaceutical stocks may be employed.

8.2.1.2. In the event of a CBRN incident, AS 886E pharmaceuticals will be exhausted first, then POS, and then WRM pharmaceuticals. In the event the incident exhausts the local military installation's supplies, pharmaceuticals might also be available from the SNS.

8.2.2. Dependencies. Due to the unknown nature of CBRN incidents and response required, the ability to provide a substantial response may be limited by the available manning. The manning requirements to support CBRN response may exceed the capabilities of the pharmacy team. In the event of a mass prophylaxis or dispensing requirement, the pharmacy team will depend heavily on augmentation from other manning sources to accomplish the mission.

8.3. Concept of Operations. The pharmacy team provides an enhanced CBRN response capability by using the existing pharmacy MCRP team concept, structure, and personnel. Pharmacy enhancements include the supplies provided by AS 886E, response guidance and doctrine, and specialized training, including higher Air Force sponsored exercises. The pharmacy team performs a number of activities in preparation for and in response to a CBRN incident.

8.3.1. Pre-Event Planning. The pharmacy team should develop plans and procedures for the acquisition, reception, control and distribution of pharmaceutical supplies. Plans should include development of MAAs, MOAs, or MOUs with local authorities to ensure they include the installation population in their numbers. Plans should identify pre-determined locations for dispensing of pharmaceuticals from the SNS.

8.3.1.1. Activation and distribution of caches for protection and treatment of medical unit staff, other response personnel, CBRN victims and other eligible beneficiaries should be IAW the MCRP.

8.3.1.2. The pharmacy team leader and PHEO should assist in the development of a mass prophylaxis and distribution plan. This planning involves coordination with off-installation hospitals and public health agencies because biological agent exposures can multiply across the installation boundaries.

8.3.1.3. The pharmacy team should develop plans to expediently move the entire AS 886E cache to a secondary location (i.e., alternate facility) in the event that its primary storage area is threatened.

8.3.2. Strategic National Pharmaceutical Stockpile. The CDC has large caches of medicine and supplies available for public health emergencies if there is an event (e.g., pandemic flu, terrorist attack, natural disaster) that overwhelms or depletes local supplies. The decision to deploy SNS assets may be based on evidence of an overt release of an agent that could adversely affect public health. It is more likely, however, that subtle indicators, such as unusual morbidity and/or mortality rates identified through the nation's disease outbreak surveillance and epidemiology network, will alert health officials to the possibility (and confirmation) of a biological or chemical incident or a national emergency.

8.3.2.1. To receive SNS assets, the affected state's governor's office will directly request the deployment of the SNS assets from the CDC or HHS. HHS, CDC, and other federal officials will evaluate the situation and determine a prompt course of action (COA). See AFI 10-2603 for more information.

8.3.2.2. In the event that the SNS is activated and deployed, the installation commander will activate installation plans (IEMP 10-2, MCRP, DCP) and work closely with local health department officials to accept, allocate, transport, and guard SNS pharmaceuticals. Strict inventory tracking and accountability measures must be applied to SNS caches.

8.3.3. Documentation and Reporting. U.S. government or host nation resources may be delayed more than 24 hours. To maximize preparedness, pharmacy personnel must do the following:

8.3.3.1. Perform an initial inventory of AS 886E on receipt and develop an AS 886E inventory and maintenance plan. This plan should include procedures for routine periodic re-inventory, evaluation of expiration dates and shelf lives of pharmaceuticals, stock management (rotation), storage facilities with environmental control and security, and methods for replacement or service life extension of expiring supplies.

8.3.3.2. Develop and maintain a detailed inventory of POS pharmaceuticals necessary for response to a CBRN incident.

8.3.3.3. Identify and maintain awareness of any local inventory of WRM pharmaceuticals necessary for such a response.

8.3.3.4. In conjunction with designated medical unit clinical specialists and the PHEO, assist in the development of patient information sheets that can be dispensed with medications.

8.3.4. Pharmacy Activation. The pharmacy team will be activated immediately upon notification of a suspected CBRN incident, peacetime accident, or natural disaster by the medical unit command duty officer, MCC, or emergency department, as described in the MCRP.

8.3.4.1. At least one member of the pharmacy team must be available for immediate recall at all times.

8.3.4.2. If a member of the pharmacy team is not available on-site at all times, an individual from the medical unit will be authorized to release supplies designated as having no-notice requirements, if these supplies have not been pre-positioned.

8.3.4.3. If there is advance warning of a potential hostile act, possibly involving CBRN agents, the pharmacy team will be activated and will commence pre-incident operations IAW the MCRP. These actions may include the following:

8.3.4.3.1. Establishing communications with the MCC and other designated work centers.

8.3.4.3.2. Pre-positioning portions of AS 886E to designated distribution or dispensing sites or point of care locations.

8.3.4.3.3. Determining snap-shot inventories of AS 886E, POS supplies, and any local WRM supplies.

8.3.4.3.4. Determining immediate availability of supply transportation vehicles and drivers.

8.3.4.3.5. Determining the immediate availability of additional pharmaceutical supplies through previously established MAAs, MOAs, and MOUs. Ensure procedures are in place for requesting additional supplies if needed.

8.3.4.4. For CBRN incidents that occur without warning, the team should implement the same procedures as an incident with warning and do the following actions:

8.3.4.4.1. Coordinate with the PHO through the MCC to determine the projected population requiring treatment and the population at risk (i.e., those requiring vaccination or prophylaxis).

8.3.4.4.2. Compare projected pharmaceutical requirements with immediately available caches from all local sources and report projected surpluses or deficiencies to the MCC.

8.3.4.4.3. Continue to liaison with the PHO to determine changes in projected need, and update the MCC following these re-evaluations.

8.3.4.4.4. Be prepared to deliver pharmaceuticals to sites as directed by the MCC.

8.3.5. Pharmacy Security. Because the likelihood of theft or vandalism of caches is considered high, AS 886E must be maintained under positive security procedures at all times. During routine operations, storage in controlled/no access locations with periodic inspection by designated medical unit personnel is sufficient. In the event of mass prophylaxis operations, heightened FPCON status (if applicable), or during actual response operations,

caches must be guarded by medical unit security personnel or SF at all times IAW the MCRP.

8.4. Manning. Pharmacy personnel include members from the pharmacy MCRP response team as determined by the MCRP. The following positions must be filled by members of the pharmacy team as an additional duty: property custodian, logistician, planner, and administrative support. At least one team member must be a pharmacist. The pharmacist is normally the team chief.

8.4.1. Mass Prophylaxis and Dispensing. Teams identified in the installation's mass prophylaxis plan will assist in conducting mass prophylaxis operations when the plan is activated. The mass prophylaxis and dispensing plan includes manning requirements and augmentation requirements and procedures. The mass prophylaxis point of distribution template in the contingency operation plan provides details on these requirements and procedures.

8.4.2. Augmentation. Additional manning support should be requested through the MCC IAW the MCRP. Personnel augmentation sources may include personnel in medical holding, the American Red Cross, other tenant commands, or volunteers. Certain medical AFSCs (e.g., 47XX) may be requested to perform activities such as mass prophylactic inoculations/vaccinations and prescription writing, depending on their background and training.

8.4.2.1. Augmentees must be oriented and trained appropriately.

8.4.2.2. Consideration of the type and extent of CBRN incident must be taken into account before calling up augmentation from local ANG and AFRC personnel. Many ANG and AFRC pharmacy personnel work at local hospitals. Calling up these personnel to aid the medical unit could strain civilian pharmacy capabilities in responding to a local CBRN event.

8.5. Integration. Medical unit response planning must include integration and coordination with other medical unit or installation initial medical response capabilities, as well as follow-on response capabilities from local, state, and federal agencies.

8.5.1. Horizontal Integration. Pharmacy planning should be coordinated with other medical unit/non-medical unit teams and off-installation responders responsible for incident response and delineated in the MCRP.

8.5.1.1. Initial and first-responder teams assigned as first-on-scene to deliver life saving/life sustaining casualty care before transport to the medical unit or other location for more definitive care may need additional pharmaceutical support (e.g., IV fluids, pain medications) from AS 886E resources to accomplish their mission.

8.5.1.2. Manpower/security teams are tasked to ensure adequate protective measures are planned for and implemented during CBRN emergencies. Manpower/security team

personnel will be posted at medical/alternate facility entrances to provide entrance and crowd control. Some personnel will be assigned to the patient decontamination area for crowd and vehicle control efforts and to establish a single entry and exit point to the medical unit. Medical unit security resources may be required to secure AS 886E assets or provide crowd and entrance control at designated mass prophylaxis and distribution sites. If mass prophylaxis or dispensing sites are required, the pharmacy team should coordinate with the MCC for additional security support from installation security assets.

8.5.1.3. The pharmacy team should coordinate with PH to provide collaborative expertise on CRBN response, assessment, and treatment/prevention.

8.5.2. Vertical Integration. All communications and requests for assistance or information by or to higher echelon or supporting Air Force or DOD commands, as well as state or other non-DOD federal follow-on resources must be coordinated through the MCC IAW the MCRP. The pharmacy team must not communicate directly with outside agencies without prior approval from the MCC.

8.5.3. Additional Resources. Outside assistance may be required in the event of a CBRN event that exceeds the capability of AS 886E, POS, installation WRM caches, or available personnel within the medical unit to accomplish the mission. The pharmacy team may integrate with local equivalent civilian response resources to provide a collaborative effort IAW with the MCRP. The medical unit commander or MCC commander must authorize this integration.

8.6. Equipment and Supplies. AS 886E quantities are estimated to treat up to 300 CBRN casualties and 150 first responders following an event and provide up to 5 days of prophylaxis medication for casualties and 30 days of prophylaxis medication for first responders. Antibiotic quantities were established with the expected ratio of two-thirds of patients will receive therapy with doxycycline and one-third will receive ciprofloxacin. Installations, after assessing the risk and with MAJCOM approval, may increase the 300-person and 48-hour planning factors. AS 886 includes the following sections:

8.6.1. 886E Sub-Assemblage PA. This section was developed for immediate response. All medical units must maintain 886E-PA in its entirety as part of the CBRN program or as normal POS.

8.6.2. 886E Sub-Assemblage PB. This section is intended for medical units that have inpatient capabilities. Medical units with an inpatient capability must procure and maintain 886E-PB.

8.6.3. 886E Sub-Assemblage PC. This section contains counter-radiological drugs and is an optional package based on the potential hazard or threat. The decision to stock all or part of this subset is mostly based on the radiation risk assessment performed by BE.

8.6.4. 886E Sub-Assemblage PD. This section contains the pharmaceutical radiation countermeasures necessary to treat 150 first responders.

8.6.5. 886E Sub-Assemblage PE. This section contains supplies and equipment to support the unit's distribution of mass prophylaxis.

Chapter 9

BIOENVIRONMENTAL ENGINEERING (BEE)

9.1. Introduction. This chapter outlines the response procedures for the BEE team during a CBRN incident. The BEE team provides technical support to the EOC and the IC. BEE team actions are coordinated with the IC (or EOC if activated). The BEE team identifies, analyzes, and recommends controls for OEH threats by performing HRAs. Demands for BEE capabilities depend on the magnitude of the incident, type of scenario, availability of installation readiness and EM assets, and the overall missions and capabilities of the medical unit/installation. BEE team support and responsibilities anticipated during pre-event planning operations, immediate emergency operations, sustained operations, and recovery operations are supported by AS 886H.

9.1.1. BEE Team Overview. A CBRN incident will result in a surge in the requirement for BEE support at the scene of the event, supporting medical units, and other point of care locations. This increased support is needed both during and after the incident.

9.1.1.1. Each BEE team must maintain, in ready status, the equipment and supplies required for initial response to a CBRN event, including PPE, specialized detection and analysis equipment, supplies, and reagents necessary for the detection and identification of CBRN agents. The team must also ensure ready access to response vehicles capable of transporting response material and personnel to an incident.

9.1.1.2. BEE team planning must include integration and coordination through appropriate channels with other installation teams such as the LBDT, EM, as well as local, state, and federal response agencies, as appropriate.

9.1.1.3. During CBRN response operations or heightened FPCON, the MCC maintains operational control over the BEE team IAW the MCRP. (For AFRC bases, operational control of the BEE team remains with the wing control center to which they are normally assigned.) The IC (normally the fire chief) has tactical control over the BEE team under AFIMS. The BEE team serves in a support role under the operations division.

9.1.1.4. The BEE team may be required to perform sample collection and preservation at the scene. BEE personnel must conduct sampling in a manner that preserves crime scene evidence and must maintain positive control of samples. Personnel must document chain-of-custody from the time of collection to delivery for lab analysis. Installation SF or appropriate law enforcement personnel are responsible for determining whether the samples are required later for evidence. OEH sampling may be required to assess health risks for individuals potentially exposed to hazardous substances.

9.1.2. Assumptions. BEE support will likely be required at the immediate scene of the incident, as well as at other designated points in support of the response effort. These locations will likely include the ECP and downwind locations. The BEE team will provide direct on-scene involvement and interface with the IC.

9.2. Capabilities and Limitations. Each BEE capability may support one or more AFMS capabilities.

9.2.1. SG-related Vulnerability Assessments. The BEE team is responsible for conducting SG-related vulnerability assessments. They coordinate with members of the Threat Working Group (TWG) to identify critical infrastructure and operational components of the installation/location. In conjunction with the TWG, the team uses existing sources of information, such as intelligence, previous vulnerability studies, and EPA reports to identify potential threats to critical nodes. The team assesses the overall vulnerability of critical nodes, considering threats, probability of occurrence, and consequence of effects. The team provides recommendations through the TWG to reduce overall vulnerability and risk to the mission.

9.2.2. Predictive Exposure Assessments. The team conducts predictive exposure assessments using OEH data, intelligence products, and modeling information collected in garrison as a baseline for predicting potential OEH exposures across the range of military operations.

9.2.3. OEH Threat Response. The team is responsible for effective and efficient response to deliberate and crisis incidents that may result in actual or potential exposure to OEH threats. The team documents information on actual and potential exposures from OEH incidents in the Defense Occupational and Environmental Health Readiness System (DOEHRS) as part of the Longitudinal Exposure Record (LER).

9.2.4. OEH Hazard Identification. The team is responsible for effectively and efficiently anticipating, recognizing, and analyzing actual and potential CBRN and physical health threats. The team associates agent effects with the health risk to potentially exposed personnel, working with EM, EOD, and other installation personnel to identify OEH hazards associated with different CBRN effects. The team works through the TWG to identify probable risks and assist with planning phases for posturing efforts, incorporating potential health risks from the residual effects of weapons (OEH hazards versus direct blast effects) and other contingencies such as TIC/TIM releases. The team is responsible for collecting, preserving, packaging, shipping, transporting, and escorting samples associated with CBRN responses at garrison locations, except for biological samples that are shipped or transported by the LBDT and escorted by local OSI or FBI personnel.

9.2.5. Exposure Investigations. The BEE team works with aerospace medicine to evaluate post-exposure outcomes through interviews, re-creations, modeling, post-exposure medical exams, controls implemented, and resulting health effects to document human health threats. The team uses these results to provide recommendations to commanders on ways to reduce risks in future operations and other similar and concurrent operations. The team will document known operational impacts (maximizing positive impacts and minimizing negative impacts).

9.2.6. OEH Hazard Management. The BEE team is responsible for providing recommendations to eliminate or mitigate actual or potential CBRN and physical OEH

threats. They recommend protective postures in counter-chemical, biological, radiological, and nuclear (C-CBRN) operations and assist with shelter management.

9.2.6.1. The team uses information from gathered intelligence, vulnerability assessments, occupational and environmental health site assessments (OEHSAs), and incident-specific data to provide threat control recommendations to the commander with respect to real-time and future operations so the commander can make proper ORM decisions. The team applies the OEH hazard control hierarchy, using engineering, administrative, and PPE as the operations dictate.

9.2.6.2. The team determines the adequacy of collective protection for controlling OEH threats, as requested. They perform HRAs to determine whether to release personnel from collectively protected facilities.

9.2.7. Exposure Tracking. The team documents information regarding identification, evaluation, and control of actual and potential OEH hazards as part of the LER. They tie completed or potentially completed exposure pathways to individuals using spatial and temporal reference marks.

9.2.8. Health Risk Management. As part of the health component of the ORM process, the BEE team communicates OEH risk-based information and advises decision makers on COAs to minimize OEH risks and maximize benefits for operations and missions. Health risk management recommendations and decisions are integrated into the commander's ORM decision-making. The team is responsible for effectively communicating potential health effects, outcomes, and control measures and providing information consistent with the HRA. The team applies OEH exposure data to groups of similarly exposed individuals.

9.3. Concept of Operations. The BEE team will be activated immediately upon notification of a suspected CBRN incident by the MCC, emergency room, command post, or the fire department IAW the MCRP and IEMP 10-2. The team can respond off-installation **only** at the direction of the installation commander, HHQ, the President, or IAW established MAAs, MOAs, or MOUs. For all contingency responses, the BEE team should coordinate with the installation EM flight to ensure proper integration of capabilities. Based on the scenario and intelligence, the BEE team should initially posture for an all-hazards response until the contingency has been characterized and the response can be appropriately tailored.

9.3.1. Response to Biological Agents. BEE team members, when augmented by the LBDT, have limited capabilities to provide presumptive positive results for specific biological agents. Once all other potential hazards have been ruled out or are known, BEE team members responding to a suspicious biological agent threat should use Level C PPE at a minimum. They should bring the XMX biological aerosol sampler, hand-held assays (HHAs), scene documentation equipment, Quicksilver Kit, IATA certified shipping containers, chain-of-custody documents, and other items needed for legal shipping such as containers for decontamination liquids and biohazard labels. The team should coordinate with the lab to obtain IATA certified shipping containers and state approved chain-of-

custody forms, as well as to determine the requirement for collecting and delivering a duplicate or split sample.

9.3.1.1. Suspicious Powders. Additional recommended equipment to bring to the response site for suspicious powders include the HazMatID for biological protein identification and to determine presence/absence of TIC/TIMs, radiation detection equipment, and electronic personal dosimeters (EPDs).

9.3.1.1.1. With proper intelligence, a negative HazMatID result for biological indicators and two negative HHAs normally suffice to rule out a biological agent. After one negative HHA result, the second HHA test should be conducted using a diluted sample (1:10) to ensure that a negative result isn't due to either too much "junk" which can interfere with the assay, or too much BWA being collected with the antigen overwhelming the assay and producing a false negative. A presumptive identification occurs if either of the two HHA results is positive. A presumptive identification requires additional analysis by the LBDT using JBAIDS and/or M1M or by a properly certified lab within the LRN. (**Note:** Follow American Society for Testing and Materials [ASTM] Standard E2458-10, *Standard Practices for Bulk Sample Collection and Swab Sample Collection of Visible Powders Suspected of Being Biological Agents from Nonporous Surfaces,* for biological sample collection methods.)

9.3.1.2. Biological Agent Aerosols. For biological agent aerosol threats, air sampling may be accomplished using dry filter units (DFUs), the XMX/2L sampler, etc. Follow the guidance outlined in the most current Air Force DFU CONOPs for air sample collection, packaging, etc. As with suspicious powders, all air sample filters must be put into a liquid phosphate buffered solution before delivery to the LBDT. If a biological toxin is suspected, HHAs can be used as a screening tool. However, HHAs are not very reliable as a screening tool for biological pathogens so the recommended practice is to deliver all suspect pathogen samples to the LBDT for analysis.

9.3.1.3. A positive result on the JBAIDS (or comparable PCR technology) for a suspicious powder or aerosol sample should be followed up with confirmation analysis by a lab within the LRN. The LBDT will coordinate the additional analysis. (See Chapter 10 for more information.)

9.3.1.4. Installation MTF labs will reject samples that are not properly sealed and accompanied by proper chain-of-custody documentation.

9.3.1.4.1. The BEE team should not deliver raw environmental samples to the LBDT. Raw environmental samples are samples in their original state at the time of collection (e.g., dry powder, bulk solid, air sample filter). Raw samples must be transferred into a screw-capped vial containing a phosphate buffer solution or another transport medium. The container should be decontaminated and double bagged at the sample collection site by qualified BE personnel or equivalent before being

transported or delivered to the LBDT. Coordinate with the LBDT for proper collection and delivery of samples.

9.3.1.4.2. The BEE team must deliver samples with a valid, accurate, state-approved chain-of-custody form with all contextual information to include results of field screening tests and the purpose for subsequent laboratory analysis.

9.3.2. Response to Unknown Suspicious Liquids. BEE team members responding with the EM flight to unknown liquids have capabilities to identify and, in some cases, quantify the substance or mixture.

9.3.2.1. At a minimum, BEE team members should use Level A PPE when responding initially to unknown hazards. Once the hazards are known and the level of risk is properly characterized, personnel can recommend downgrade of PPE levels to the IC. Recommended equipment to bring to the response site include the lower explosive limit (LEL)/O2 meter, photoionization detector (PID)/flame ionization detector (FID), HazMatID, EPDs, 451P, HAPSITE (40ml vials if the Headspace is needed), M256 kit (if a CW agent is suspected), M272 kit (if a warfare agent is suspected in water), scene documentation equipment, and the Quicksilver Kit.

9.3.2.2. If the BEE or EM team is unable to positively identify the substance with the initial set of equipment, additional follow-on equipment may be needed. This equipment can include any AS 886H item, which will be determined based on results from the initial screening.

9.3.2.3. If a threat agent is presumptively confirmed by test results (e.g., HAPSITE, HazMatID, M256 kits), a sample will be collected and sent to a pre-identified Air Force-approved laboratory for full analysis to include definitive identification and confirmation.

9.3.3. Response to Unknown Suspicious Solids and Suspected Ground Contamination. BEE team members responding to solid hazards have capabilities to identify the substance or mixture.

9.3.3.1. Once the type of hazard has been properly identified as a solid (i.e., dusty agent, radioactive particles), BEE team members responding to unknown exposure levels should initially be in Level B PPE. The team can recommend downgrade to Level C as appropriate once the exposure risks have been properly characterized. Recommended equipment to bring to the response site includes the LEL/O2 meter, PID/FID, HazMatID, radioactivity, detection, indication, and computation (RADIAC) equipment (e.g., ADM-300, 451P, SAM-940, RaDeCo), EPDs, 40ml vials if Headspace is needed (i.e., for contaminated soils), scene documentation equipment, and the Quicksilver Kit.

9.3.3.2. If the BEE team is unable to positively identify the substance with the initial set of equipment, additional follow-on equipment may be needed. This equipment can include any 886H AS item, which will be determined based on results from the initial screening.

9.3.3.3. If a warfare agent is presumptively confirmed through testing (e.g., by HAPSITE, HazMatID, M256 kits), a sample will be collected and sent to a pre-identified Air Force-approved laboratory for full analysis and confirmation.

9.3.4. Suspected Food or Water Contamination. PH should be consulted on food contamination. For possible water contamination, drinking water supplies should be monitored, and the BEE team chief should advise on boiling, outside procurement, or other decontamination requirements.

9.3.5. Response Actions. While the installation Emergency Manager is responsible for integrating initial efforts with follow-on response teams to include federal, state, and local responders, the BEE team is responsible for supporting the response from the initial to the follow-on phases. BEE team personnel are responsible for the following actions.

9.3.5.1. Confirm the ECP is established in an area that is not contaminated and is not likely to become contaminated.

9.3.5.2. Depending on intelligence and tailored to the particular threat, increase monitoring of installation water supplies to ensure potability and availability. Report results to the EOC.

9.3.5.3. Collect samples and, if appropriate, prepare for transport using DOT or IATA-approved containers to approved testing laboratories as identified by the IEMP 10-2, MCRP, or LRN. Coordinate with the LBDT for containers and chain-of-custody forms.

9.3.5.4. Employ AS 886H assets to determine the OEH impact of chemical, biological, and radiological agents. Support may be required from the LBDT. Report results to the MCC and EOC, if available. If the MCC is not available, notify the chain of command.

9.3.5.5. Advise the IC of immediate health hazards and recommended protective measures and courses of action.

9.3.5.6. During responses to radiological incidents, implement a monitoring plan for responders and medical first receivers using EPDs and other monitoring devices to capture potential exposures. See AFI 48-148, *Ionizing Radiation Protection,* and AFMAN 48-125, *Personnel Ionizing Radiation Dosimetry,* for more information and policy on radiation dosimetry.

9.3.6. CBRN Incidents with Warning. Upon receipt of a warning (e.g., meeting and decision by the installation TWG), activate the BEE team and commence pre-incident actions IAW the MCRP (IEMP 10-2 for AFRC bases). These actions may include establishing communications with the MCC and other designated work centers. The team chief is responsible for the following actions:

9.3.6.1. Assign specific responsibilities to each member of the BEE team according to the current situation and mission priorities.

9.3.6.2. Determine the immediate availability of additional equipment and supplies through previously established MAAs, MOAs, and MOUs.

9.3.7. CBRN Incidents without Warning. For CBRN incidents that occur without warning, the team should implement the same procedures as an incident with warning and do the following:

9.3.7.1. Compare projected requirements with immediately available caches from all local sources and report projected deficiencies to the MCC. (For AFRC bases, projected deficiencies should be reported to the BOS control center or equivalent.)

9.3.7.2. When activated, deliver on-site support as directed by the IC. Gather intelligence from the fire entry team that performed rescue operations and site characterization (pictures of affected location, container size, and characteristic of liquid, solid, and powder).

9.3.7.3. Perform HRAs of any potential hazards and make recommendations to the IC. Conduct follow-on assessments after the initial detection efforts performed by the emergency management flight or HAZMAT response team to identify and quantify hazards. Evaluate the hazard based on these measurements and possibly other data and communicate risks and hazard control recommendations to the IC.

9.3.7.4. BEE team members may be required to comply with OSHA standards, depending on the situation. OSHA requirements for HAZMAT operations include the provision of pre- and post-entry medical screening and continuous medical support for personnel dealing with or performing operations involving HAZMAT, search and rescue, and entry into the hot zone. OSHA standards do not apply during uniquely military operations IAW EO 12196 and 29CFR1960.2.

9.4. Manning. As the situation or FPCON dictates, at least one BEE team member must be available for immediate recall. This individual must be a fully qualified and trained 5-level BE technician or higher. The BEE team may consist of all fully qualified members of the BEE flight. The number of BEE personnel required for response is scenario driven and also depends on the availability of local EM resources.

9.5. Integration. MTF response planning must include integration and coordination with other organizations that have initial and follow-on responsibilities, including local, state, and federal agencies.

9.5.1. Coordination and Team Support. The BEE team will coordinate planning with other medical unit and non-medical unit teams as well as off-installation responders responsible for CBRN incident response. The BEE team coordinates with initial response teams assigned as first responders and emergency responders to the scene as well as medical

manpower/security and facilities teams tasked with planning for and implementing adequate protective measures at the medical unit during contingency responses. The BEE team might collaborate with and support the following other teams:

9.5.1.1. The BEE response team coordinates with the PHO and PHEO to provide collaborative expertise to installation commanders on biological effects, health-based risk assessments and operations. The BEE team should routinely collaborate with the PHO to review disease and syndromic surveillance and with the PHEO to review medical intelligence information as part of the HRA process. Such action may lead to identification of a potential endemic disease outbreak or reveal a covert biological attack.

9.5.1.2. The patient decontamination team is tasked with effectively managing significant numbers of live casualties who present to the medical unit and may be contaminated with biological, chemical, or radioactive hazards. All wastewater used to decontaminate patients is captured in a bladder. They may consult with the BEE team on handling of the wastewater. The BEE team may also be required to collect a sample of the wastewater for hazardous waste characterization before disposal (if requested by the Installation Management Flight).

9.5.1.3. The pharmacy team is responsible for developing plans and procedures for the acquisition, reception, control, and distribution of pharmaceutical supplies necessary to support a CBRN incident. The BEE team may need to advise on proper radiopharmaceuticals, depending on local TIC/TIM threats.

9.5.1.4. The LBDT is tasked with providing rapid identification of potential biological agents released at the scene or in clinical samples. The BEE team should pre-coordinate with the LBDT on chain-of-custody forms, proper packaging materials for samples, etc.

9.5.1.5. Depending on the scenario, other specialty teams may be required by various DOD instructions and directives (e.g., medical unit smallpox vaccination or treatment teams.)

9.5.2. Horizontal Integration. BEE team members should be familiar with the CBRN planning and incident response procedures contained in IEMP 10-2. The BEE team should plan for integrated response with other installation and off-installation response teams as appropriate.

9.5.2.1. CEX is the primary facilitator for on-scene command, control, and communications. They provide initial hazard determination (hazard plot and/or initial agent detection). The BEE team may use hazard plots/data provided by CEX to refine CBRN hazard identification and quantification. Information sharing and interaction (e.g., joint training, exercises) between CEX and BE are critical to providing effective mission support. Team capabilities are maximized when these organizations work together during a CBRN response.

9.5.2.2. The Fire Emergency Services (FES) is typically the first responder to a CBRN incident. They provide initial C2 by establishing the ICS and establish gross decontamination for responders and victims. While FES is trained for HAZMAT operations, the BEE team provides expertise and advice on HRA.

9.5.2.3. The HAZMAT response team is responsible for controlling the hazardous release and performing cleanup. This team may provide their own decontamination capability. The BEE team works closely with the HAZMAT response team to provide HRA support.

9.5.2.4. The EOD team responds to potential CBRN incidents involving explosives. Joint training between BE and EOD should be considered.

9.5.3. Interaction with Civilian Response Resources. The BEE team might interact with civilian response resources (e.g., state environmental and EPA responders, HAZMAT response teams, civil support teams [CSTs], and emergency medical personnel).

9.5.3.1. The installation commander can send military personnel to respond to off-base incidents in certain circumstances such as imminently serious conditions resulting from a civil emergency or an attack on civilian assets to save lives, prevent human suffering, or mitigate significant property damage. Local military commanders subject to direction provided by their regional planning agent may take necessary action to respond to a civil authority's request for CBRN incident support. BEE personnel may be tasked to support this request.

9.5.3.2. A CBRN event occurring on-installation may require assistance from off-installation responders. The BEE team must understand what local resources exist, their capabilities, and how to interact effectively with counterparts in the civilian response force.

9.5.4. Vertical Integration. All communications and requests for assistance or information by or to higher echelon or supporting Air Force or DOD commands, as well as state and other non-DOD federal follow-on resources must be coordinated through the MCC or EOC IAW the MCRP. The BEE team must not communicate directly with outside agencies without prior approval from the MCC.

9.6. Equipment and Supplies. AS 886H requirements are based on the equipment and quantities of supplies necessary to sample and analyze gas, liquid, and solid contaminants/agents for a 24 hour period (for AFRC bases, up to an 8 hour period) such that a comprehensive HRA can be accomplished IAW AFI 48-145. These materials include the following sub-assemblages:

- Sub-assemblage C1–Communication items
- Sub-assemblage DB–Diagnostic and surveillance biological
- Sub-assemblage DI–Diagnostic and surveillance chemical
- Sub-assemblage DS–Diagnostic and surveillance-chemical specialized
- Sub-assemblage DR–Diagnostic and surveillance radiological

- Sub-assemblage S1–Safety (PPE)

Chapter 10

LABORATORY BIOLOGICAL DETECTION

10.1. Introduction. This chapter outlines the roles and procedures AFMS laboratories perform in CBRN defense. It addresses the role of the Laboratory Biological Detection Team (LBDT) in providing specific, rapid detection of BTAs from suspect samples.

10.1.1. LBDT Overview. The LBDT provides installation commanders with rapid, pathogen-specific identification. The LBDT contains instrumentation that can identify BTAs of medical and operational importance from various sample types. The main instrumentation associated with the LBDT are JBAIDS and M1M. JBAIDS and M1M meet the Services' needs to enhance the survivability of U.S. forces in a biological threat environment. JBAIDS and M1M allow the DOD to standardize testing and identification procedures across the Services. JBAIDS is a molecular biology instrument system that uses PCR technology to identify BTAs. The M1M system adds a complementary capability to the JBAIDS technology. M1M uses electrochemiluminescence (ECL) technology for the identification of certain toxins. **Note:** The M1M capability has been transitioned to only OCONUS installations IAW the Aug 2011 policy.

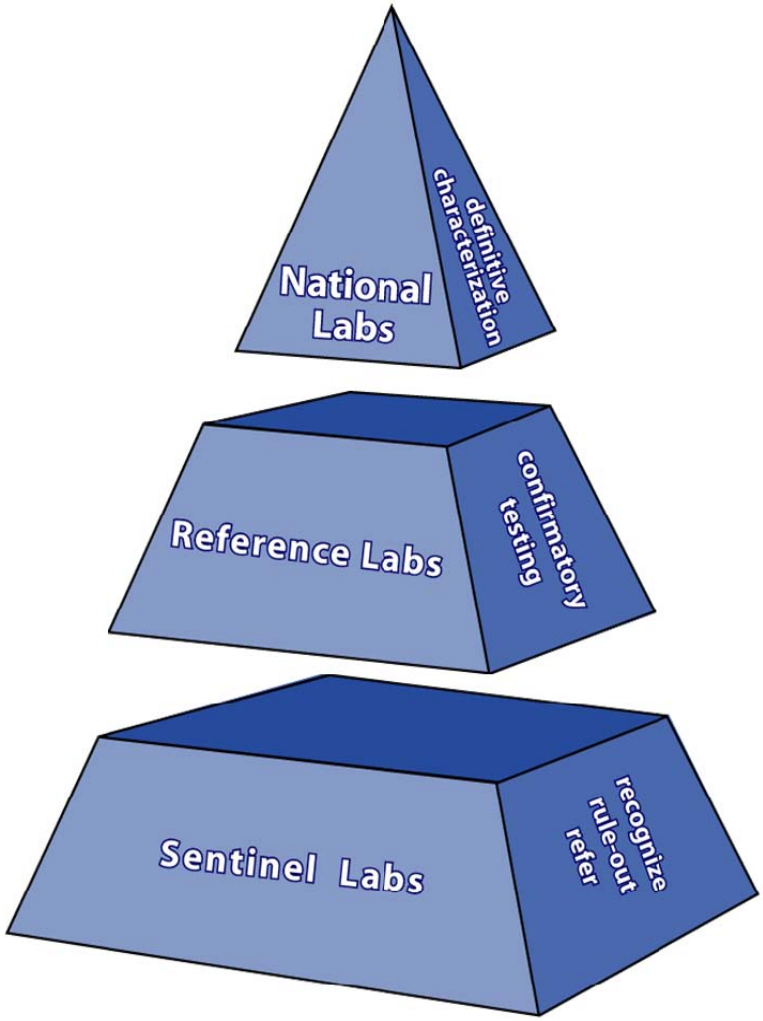
10.1.2. Background. Incidents such as the March 1995 Aum Shinrikyo, Tokyo subway attack and the intentional release of weaponized anthrax spores through the U.S. Postal Service in October 2001 heightened awareness of the vulnerability of DOD and U.S. civilian personnel to the deliberate release of biological and chemical agents. Recognizing the role of public health in terrorism preparedness and planning, the CDC formed the Strategic Planning Workgroup in Preparedness and Response to Biological and Chemical Terrorism. The group included members from the CDC, law enforcement, intelligence, defense, and medical communities. Their focus was to develop an overarching strategy to help public health organizations recognize the signs of a potential covert attack and to strengthen an already overburdened system's ability to respond. The group's recommendations were published in the 21 April 2000 *CDC Morbidity and Mortality Weekly Report (MMWR),* "Biological and Chemical Terrorism: Strategic Plan for Preparedness and Response." Recommendations included the establishment of a nationwide LRN to assist in the rapid detection and determination of a biological event, whether overt, covert, man-made, or naturally occurring, as an early warning and reporting tool.

10.1.2.1. In spring 2000, the DOD Center for Clinical Laboratory Medicine (CCLM) directed all CONUS military clinical laboratories to enroll in the CDC network. It directed all OCONUS clinical laboratories to establish a CDC sentinel laboratory-equivalent or higher capability. CDC sentinel laboratories are those within the LRN that are capable of analyzing or referring samples and specimens suspected of containing biological agents.

10.1.2.2. All the Surgeons General are in agreement with and have signed and ordered adherence to this policy across their service laboratory structure.

10.2. Laboratory Response Network (LRN). The LRN is an integrated network of state and local public health, federal, military, and international laboratories that can respond to bioterrorism, chemical terrorism, and other public health emergencies. The LRN laboratories are grouped into four categories based on their testing and diagnostic capabilities: basic sentinel, advanced sentinel, reference, and national laboratories, as shown in Figure 10.1. Most Air Force medical laboratories operate at the basic or advanced sentinel level. IAW AFI 41-106, medical unit laboratories certified under the CCLM as a base sentinel site for microbiology must participate in the CDC's LRN as a basic sentinel site. Basic sentinel laboratories have procedures and policies in place to ship suspect specimens to the nearest LRN reference laboratory. Laboratories registered to perform high complexity microbiology serve as advanced sentinel sites and can conduct basic tests to rule out the presence of certain BTAs in clinical specimens. **Note:** The LBDT does not directly support the LRN. The two programs are separate and distinct.

Figure 10.1. Laboratory Response Network (LRN) Structure



10.2.1. Sentinel Laboratories. Sentinel laboratories represent the thousands of hospital-based laboratories that are on the front lines. Sentinel laboratories have direct contact with

patients. In an unannounced or covert terrorist attack, patients provide specimens during routine patient care. Sentinel laboratories could be the first facility to spot a suspicious specimen. A sentinel laboratory's responsibility is to refer a suspicious sample to the right reference laboratory.

10.2.2. Reference Laboratories. Reference laboratories, sometimes referred to as confirmatory reference laboratories, can perform tests to detect and confirm the presence of a threat agent. These laboratories are capable of producing conclusive results without having to rely on definitive results from laboratories at the CDC. This capability ensures a timely local response to a terrorist incident. The Air Force LRN reference laboratory is located at Wright Patterson AFB, OH.

10.2.3. National Laboratories. National laboratories have unique resources to handle highly infectious agents and the ability to identify specific agent strains. Examples include the CDC, USAMRIID, and the Naval Medical Research Center (NMRC).

10.3. Capabilities and Limitations. The LBDT is an in-place capability at CONUS and OCONUS sites that provides expertise in biological identification and risk analysis. Members of the LBDT are trained to handle, process, and test clinical specimens (human origin) as well as safely collected environmental samples (to include food) suspected or known to contain BTAs. BTAs include but are not limited to toxins, bacterial agents, and viral agents. The LBDT may be used to augment existing and future in-place force protection capabilities.

10.3.1. Microbiology Techniques. The LBDT uses integrated technology consistent with the Air Force deployable biological augmentation team (UTC FFBAT) and equipment set (UTC FFBA1). Currently employed technologies include nucleic acid-based (deoxyribonucleic acid [DNA]/ribonucleic acid [RNA]) identification by means of PCR and antibody/immuno-based identification using ECL. The latter technology augments the detection and identification capabilities of the LBDT by adding toxin detection to the repertoire of BTA testing.

10.3.2. Environmental Testing. Each medical unit with the LBDT capability must support environmental testing locally if they have AS 886I. The LBDT must also determine and contact their LRN reference laboratory to ensure they can refer samples that may possibly contain BTAs. Medical units without an LBDT should send suspect environmental samples and clinical specimens that cannot be ruled out for BTAs to the appropriate local LRN laboratory.

10.3.3. LRN Shipments. A specimen (split sample) should be sent through the LRN simultaneously whenever a specimen is submitted to the LBDT especially if it is truly suspect for a BTA. Environmental samples and clinical specimens testing positive or indeterminate for a BTA with LBDT testing technologies should also be sent to the appropriate local LRN for confirmatory testing. Proper sample collection, handling and packaging procedures, and chain of custody must be completed for each specimen/sample.

10.3.4. Analytical Platforms. JBAIDS is the LBDT's primary analytical platform. A select number of sites received the M1M to add to their LBDT capability. Table 10.1 lists the BTA assay kits provided in AS 886I for JBAIDS and M1M.

10.3.4.1. JBAIDS is a re-useable, portable, modifiable identification and diagnostic system for BTAs. It is configured to support reliable, fast, and specific identification of BTAs from a variety of clinical specimens and environmental samples.

10.3.4.2. The M1M uses ECL technology and is capable of providing in-vitro identification of toxins, bacteria, and viruses from a variety of environmental samples and clinical specimens.

Table 10.1. AS 886I JBAIDS and M1M Assays

JBAIDS	M1M
Anthrax Target 1 (*Bacillus anthracis*)	Botulinum Toxin A/B/E
Anthrax Target 2 (*Bacillus anthracis*)	Ricin Toxin
Brucella (*Brucella sp.*)	Staphylococcus Enterotoxin B
Encephalitis (EEE) (D)	
Encephalitis (VEE) (D)	
Encephalitis (WEE) (D)	
Glanders (*Burkholderia mallei*) (D)	
Plague Target 1 (*Yersinia pestis*)	
Plague Target 2 (*Yersinia pestis*)	
Q fever (*Coxiella burnetii*) (D)	
Small Pox Target 1 (*Vaccinia*)	
Small Pox Target 2 (*Variola*)	
Tularemia (*Francisella tularensis*)	
Typhus (*Rickettsia typhi*) (D)	

Note: Deferred (D) items are not sent to each LBDT. They are centrally managed and delivered to an individual LBDT upon request by the medical unit commander or designee.

10.3.5. Facility Requirements. Current Air Force policy dictates the LBDT must have a facility outside or separate from the medical facility to prepare environmental samples for testing (reference AFI 41-106, paragraph 7.2.5.2.). Compliance with this requirement may involve acquiring a facility of opportunity on the installation and performing extensive modifications to bring the facility up to BSL-2 standards. The delay in waiting for a facility and the huge costs associated with modifications could lead to a gap in capability. If a medical unit is faced with these challenges, this situation must be discussed in the MRC meeting to determine potential options. The medical group commander may opt to bring properly prepared samples into the MTF's clinical laboratory for testing on the JBAIDS or M1M analyzer if the lab is large enough to accommodate the different processes. The commander must authorize it in writing and include a certification that a local risk evaluation has been completed by BE personnel. Regardless of whether sample testing is performed in a separate facility or within the MTF, suspected equine encephalitis and smallpox samples

should not be analyzed but should instead be processed and shipped to a higher level reference laboratory (i.e., BSL-3 for equine encephalitis and BSL-4 for smallpox).

10.4. Concept of Operations. In general, samples suspected of containing a BTA should be coordinated with the FBI (through the AFOSI) and processed through the LRN. IAW the National Response Framework, made effective on 22 March 08, the FBI assumes oversight for investigations involving BTAs found in samples on federal installations in CONUS.

10.4.1. Environmental Samples. Environmental samples suspected of containing BTAs should be tested using JBAIDS or M1M. Advanced LRN sentinel protocols should not be used to test environmental samples. Samples that test positive on JBAIDS or M1M must be sent to an LRN reference laboratory for further analysis. Consult the JBAIDS Joint TTP and JBAIDS and M1M operating instructions (OIs) for testing procedures. This information is available on the Laboratory Readiness Skills web page on the AFMS Knowledge Exchange at the following URL: https://kx.afms.mil/labreadinessskills

10.4.2. Clinical Specimens. Clinical specimens should be tested with advanced sentinel LRN procedures and may be tested using FDA-cleared reagents as appropriate if requested by the PHEO. Samples that cannot be ruled out to contain BTAs using advanced sentinel procedures or that test positive using JBAIDS or M1M should be forwarded to the nearest LRN reference facility for further analysis. The LRN sentinel level clinical laboratory guidelines are available on the ASM website at the following URL: http://www.asm.org/index.php/policy/sentinel-level-clinical-microbiology-laboratory-guidelines.html

10.4.3. Suspect Specimens. Suspect clinical specimens may be tested with FDA-cleared reagents if there is a declaration of a public health emergency by the wing commander. It is best to funnel suspect clinical specimens into the LRN as soon as possible.

10.4.4. LBDT Activation. LBDT members must be fully qualified before activation. Current intelligence data about threat agents, clinical agents of concern, and endemic disease should be collected. When required, the team may be activated to provide advanced microbiological diagnostic support. The team can be activated by the medical unit commander or MCC to assist BE or PH personnel in performing force protection duties for fixed-site installation defense operations. The LBDT may also be activated to provide local or regional testing support for other DOD facilities as approved by the medical unit commander or wing commander.

10.4.5. Sample Collection and Chain of Custody. Environmental sample collection is the joint responsibility of the BEE team, fire and emergency services flight, and the readiness and emergency management flight IAW their instructions. Food samples are the one exception to environmental sampling. Food sample collection is the responsibility of PH personnel. All clinical specimens must be collected by medical service personnel. The LBDT shall not perform environmental sample or clinical specimen collection. The LBDT provides consultation, as needed, regarding the types and sources of sample specimens to collect. Samples suspected of containing BTA must be collected using accepted chain-of-

custody procedures with all information such as results of field screening tests and the purpose of the subsequent laboratory analysis.

10.4.5.1. Use the chain of custody form posted on the AFMS Knowledge Exchange if it complies with local and state requirements or use specific state-approved forms. The chain of custody form is located on the Lab Readiness Skills web page, under the Chem-Bio Defense CONOPS/TTPs/OIs/ Manuals tab, at the following URL: https://kx.afms.mil/labreadinessskills

10.4.5.2. Ensure installation plans include the chain-of-custody form to be used so that all base responders use a standardized, compliant form.

10.4.6. Sample Processing. Sample processing methods and the time required for analysis depend on the sample type. JBAIDS sample preparation and analysis time can range from three to four hours depending on the type and number of samples or tests being analyzed. M1M sample preparation and analysis can range from one to two hours. Personnel should use standard precautions (e.g., gloves, N95 mask, laboratory coat, other PPE as warranted) when collecting and handling samples. All samples are considered infectious and potential threats until determined otherwise. Samples should be processed following BSL-2 precautions. Samples submitted for analysis should always be in solution (such as phosphate buffered solution) inside a secured/screw-cap container and then double-bagged with all surfaces decontaminated before acceptance. Lab technicians should not open any samples until they are inside the hood. That includes material used to double-bag the sample, as well as the specimen container. The centrifuge should only be used inside the hood. Samples should be properly repackaged before taking them out of the hood.

10.4.7. Split Samples. Following sample receipt, prepare an aliquot of the collected sample for the LRN and LBDT. Ensure that a chain-of-custody form accompanies each sample and document every sample aliquot prepared. If the sample size is not adequate to perform the analysis and split the sample for confirmatory analysis, consult the PHEO for guidance. In most cases, the entire sample should be immediately sent to the nearest LRN reference laboratory for analysis.

10.4.8. Sample Analysis Procedures. Consult the following resources for information on sample analysis procedures.

10.4.8.1. Detailed sample processing procedures for JBAIDS and M1M are available in the OIs posted on the Lab Readiness Skills web page on the AFMS Knowledge Exchange.

10.4.8.2. See the JBAIDS Joint TTP and M1M User Guide/Systems Manual for sample processing protocols and sample analysis procedures.

10.4.8.3. See the JBAIDS System Manual for analyzer and software operation procedures.

10.4.8.4. LRN procedures, including the Sentinel Level Clinical Laboratory Guidelines, are available on the ASM website at the following URL: http://www.asm.org/index.php/policy/sentinel-level-clinical-microbiology-laboratory-guidelines.html

10.4.9. Results Interpretation. Initial LBDT results including the number, sources, and types of clinical and environmental samples collected and tested should be reported to the senior laboratory officer, attending physician, medical unit commander, PHEO, BEE, and other appropriate agencies, such as PH, the MCC, and local and regional public health authorities IAW local procedures. For samples submitted by DOD agencies outside the installation, the medical commander is responsible for informing the agency of the result and for providing the summary of the laboratory analysis to the installation commander. Suspicious BTA results should be coordinated with the FBI (through the AFOSI) and the nearest reference LRN laboratory, following rule-in using LRN sentinel protocols for clinical specimens and JBAIDS and M1M testing for clinical (not validated) and environmental samples.

10.4.9.1. The JBAIDS software analyzes PCR results and determines whether the nucleic acid of the biological agent being tested for is present in the sample. Samples are tested in duplicate and the JBAIDS software reports a combined result. See the JBAIDS OI on the Laboratory Readiness Skills web page on the AFMS Knowledge Exchange for detailed result interpretation.

10.4.9.2. The M1M software analyzes ECL results and determines if the target (i.e., toxin) being analyzed is contained in the sample. Samples are tested in duplicate, and the M1M software reports a result for each duplicate sample. See the M1M OI on the Laboratory Readiness Skills web page on the AFMS Knowledge Exchange for detailed result interpretation.

10.4.9.3. Consult the LRN protocols for proper results interpretation of LRN sentinel procedures.

10.4.10. Use of Non FDA-Cleared Assays for Clinical Specimens. Do not use non FDA-cleared assays for clinical specimens. Submit clinical specimens to the appropriate LRN laboratory for BTA testing.

10.4.11. Forwarding Samples to LRN Reference or National Laboratories. Any clinical specimen or environmental sample that is truly suspect for BTA should be sent to an LRN reference laboratory regardless of the JBAIDS and M1M result.

10.4.11.1. Notify the LRN reference laboratory that a suspect BTA sample is being shipped for analysis. Results from JBAIDS and M1M are not reportable to the LRN. Only results generated using LRN sanctioned protocols can be reported to the LRN. In CONUS, the LRN and FBI (via the AFOSI) policies and procedures take precedence. Testing of these samples must be done IAW LRN and FBI policies.

10.4.11.2. Each laboratory must have IATA trained and certified personnel to properly pack and ship samples suspected of containing BTAs. It is the responsibility of the laboratory flight commander or chief of laboratory services to ensure qualified personnel are available in the laboratory. BE personnel will assist the LBDT, as needed, with proper sample packaging, chain of custody forms, and arrangements for shipping.

10.4.11.2.1. For OCONUS locations, the U.S. Army 22nd Chemical Battalion (Technical Escort) provides transportation from the LBDT to a confirmatory or definitive laboratory. IAW FM 3-11.86/MCWP 3.37.1C/NTTP 3-11.31/AFTTP (I) 3-2.52, *Multiservice Tactics, Techniques, and Procedures for Biological Surveillance*, if the technical escort unit does not have anyone available and the shipment is urgent, the installation commander may designate a courier. Regulations for international and airline transportation must be followed IAW AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments,* IATA *Dangerous Goods Regulations* (DGR), IATA *Infectious Substance Shipping Guidelines (ISSG),* and the World Health Organization's *Guidance on Regulations for the Transport of Infectious Substances*. FEDEX is authorized to transport shipments via air/ground for testing. The shipment must be properly packaged IAW IATA guidelines for the sample type (Category A, B, etc.).

10.4.11.2.2. For CONUS locations, positive, presumptive positive, indeterminate clinical specimens, and environmental samples should be shipped to an LRN reference or national laboratory IAW proper shipping procedures. Environmental samples that test positive should be handled by the FBI (coordinated through the AFOSI) who may transport the sample to the appropriate LRN laboratory.

10.5. Manning. The LBDT is composed of two personnel: a laboratory officer or civilian technologist and an enlisted 4T or civilian technician. Both team members must receive classroom and hands-on training before beginning on-site operations. All members of the LBDT must be trained and knowledgeable regarding the clearly defined role of the LBDT and how it supports the national LRN. The laboratory flight commander/chief, laboratory services or designee, is responsible for implementation and maintenance of the LBDT and its participation in the LRN IAW AFI 41-106.

10.5.1. Biomedical Laboratory Officer (43T3X). The laboratory officer assigned to the facility must have successfully completed the JBAIDS course and have hands-on experience in basic and advanced microbiological diagnostics techniques including PCR technology. Experience in running immunoassay techniques (enzyme linked immunosorbent assay [ELISA], enzyme immunoassay [EIA], ECL), HHAs, and general clinical laboratory experience is preferred. The officer must know and be able to explain to clinicians, senior medical personnel, and installation officials the capabilities and limitations of each testing method, identification sensitivities and specificities, and management of sample results including the role of the national LRN, the Army's Technical Escort Unit, and capabilities of referral laboratories (reference and national). The team chief must have at least a current secret security clearance.

10.5.2. Government or Contract Civilian Medical Technologist. If the biomedical laboratory officer is already assigned to a UTC, an experienced medical technologist assigned to the laboratory may be assigned as the LBDT chief instead. The medical technologist assigned as team chief must be certified by the American Society for Clinical Pathology (ASCP) or equivalent, have successfully completed the JBAIDS course, and have hands-on experience in basic and advanced microbiological diagnostics techniques including PCR technology. Experience in running immunoassay techniques (ELISA/EIA/ECL), HHAs, and general clinical laboratory experience is preferred. The team chief must know and be able to explain to clinicians and senior medical and installation officials the capabilities and limitations of each testing method, identification sensitivities and specificities, and management of sample results including the role of the national LRN, the Army's Technical Escort Unit, and capabilities of referral laboratories (reference and national). The team chief must have at least a current secret security clearance.

10.5.3. Enlisted Laboratory Technician (4T0X1). The enlisted laboratory technician may be assigned as the team technician. The laboratory technician must have attended and successfully completed the JBAIDS course and have experience in basic and advanced rapid diagnostics techniques (e.g., PCR, ELISA/ECL, and HHAs) to include sample preparation and isolation techniques. The laboratory technician must understand nucleic acid based identification techniques to include test design and sample preparation and be well skilled in advanced nucleic acid based and immuno-based laboratory equipment usage. The laboratory technician must understand sample and reagent logistical issues such as storage needs and methods for ordering additional reagents and understand results reporting and sample referral for confirmatory and definitive testing. The position requires at least a current secret security clearance.

10.5.4. Government or Contract Civilian Medical Laboratory Technician. If the enlisted medical laboratory technician is already assigned to other UTCs, an experienced medical laboratory technician (ASCP) or equivalent technician may be assigned as the team technician upon successfully completing the JBAIDS course. The medical laboratory technician must understand nucleic acid based identification techniques to include test design and sample preparation and be well skilled in advanced nucleic acid based and immuno-based laboratory equipment usage. The laboratory technician must understand sample and reagent logistical issues such as storage needs and methods for ordering additional reagents and understand results reporting and sample referral for confirmatory and definitive testing. This position requires at least a secret security clearance.

10.6. Integration. LBDT capabilities may be used in conjunction or work closely with the other MC-CBRN capabilities such as the BE (AS 886H) and PH (AS 886P) teams. The LBDT's JBAIDS and M1M equipment are not interoperable with or connected to other systems. They are stand-alone laboratory instruments that produce test results from samples submitted for analysis. LBDT personnel may need to communicate with their technical reach-back resources within the services, HHQ and medical commands, the national reference laboratories, and the LRN.

10.7. Equipment and Supplies. AS 886I provides instrumentation, supplies, and equipment to identify BTAs from various sample types. It does not include radios or other communications equipment. Communications equipment must be obtained from the MCC. AS 886I includes the following sub-assemblages:

- Sub-Asssemblage AA–Admin
- Sub-Assemblage C1–Communications Items
- Sub Assemblage DE–Diagnostics and Surveillance Electrochemiluminescence
- Sub Assemblage PD–Diagnostics and Surveillance PCR
- Sub Assemblage I1–Infrastructure
- Sub Assemblage S1–Safety

10.7.1. CDC and LRN Testing Supplies. The CDC provides reagents free of charge to all registered reference and national laboratories. The CDC does not provide reagents for LRN sentinel laboratories. Minimal costs will be incurred for routine laboratory supplies (consumables and accessories) required for processing samples. All laboratories are expected to use the nearest local reference laboratory to minimize shipping costs. A local courier may transport samples as long as the established chain of custody is not compromised. It is imperative that CDC, DOD, and host nation protocols be followed with respect to all manner of processing, testing, or transporting samples.

10.7.2. M1M Supplies. The Critical Reagent Program is the source for M1M minitubes, control material, diluents, and calibrators. Non-programmed requirements should be identified by the MRO who will coordinate the request with the applicable MAJCOM/SGX. **Note:** M1M is only used at OCONUS locations.

10.7.3. JBAIDS Supplies and Equipment. JBAIDS is maintained according to the Joint Maintenance and Logistics Concept. See the JBAIDS Joint TTP for more information.

10.7.3.1. JBAIDS maintenance and reach-back information is available from the manufacturer, Idaho Technology, at the following URL: https://jbaids.idahotech.com

10.7.3.2. Support is available around the clock, 365 days per year, from the Idaho Technology help desk at the following email address: support@idahotech.com

10.7.3.3. Resupply of probes, extraction kits, and controls is accomplished by creating on-line requisitions in DMLSS. Non-programmed or emergency resupply of probes and extraction kits should be done IAW the JBAIDS Deferred Procurement Plan. Other supply items should be ordered using normal processes through the laboratory and the medical logistics flight.

Chapter 11

FIELD RESPONSE

11.1. Introduction. This chapter provides procedures for field response capabilities. It will assist medical unit planners in developing MCRP procedures to respond to a CBRN incident, peacetime accident, or natural disaster and provide guidance on the management and employment of AS 886J.

11.1.1. Field Response Overview. Field response refers to the immediate medical CBRN response capability provided by AS 886J supplies. This capability must be integrated into MCRP procedures and checklists. AS 886J supplies are intended to be used by the FRT. New MCRP teams should not be created to implement this capability. The FRT chief manages AS 886J and coordinates how the supplies are packaged (e.g., grab and go). Procedures should be developed to access and incorporate the pharmaceuticals on AS 886E into the medical equipment and supply stocks of the AS 886J grab and go bags.

11.1.1.1. Response to a CBRN event is managed by the IC using AFIMS and the installation's IEMP 10-2. Team members must be trained and have an understanding of the risks and potential outcomes associated with a CBRN mass casualty event. The FRT must have the ability to recognize the need for additional resources and make appropriate notifications to the IC.

11.1.1.2. Field response capability includes on-scene triage, treatment, and transport of CBRN casualties; medical support for HAZMAT operations; evidence preservation at the scene and the medical unit; triage of decontaminated casualties (gross decontamination performed by the fire department); clinical sample collection; disposition of casualties after emergency treatment (including fatality management); coordination with civilian transporters and treatment facilities; preparation for medical evacuation; assistance in mass prophylaxis dispensing or vaccination.

11.1.1.3. Typically, the initial assessment and management of patients are performed by the responding ambulance service or EMS. Upon activation, the FRT must work in unison as part of the overall EMS scene response. Prospective planning that includes a unification process and site medical C2 should be developed.

11.1.1.4. Additional MCRP teams may also provide field response if the number of casualties exceeds the capabilities of the FRT. Coordination with the MCC for support from additional MCRP teams and 886J AS assets will facilitate response. Requests for this support must flow from the incident site through the IC to the ESF #8 representative. The ESF #8 representative will contact the MCC. Before sending other teams to respond on-scene to a CBRN event, the MCC and commanders must ensure the teams are properly trained.

11.1.2. Assumptions. The FRT must be able to respond and be functional at all times when the medical unit is open for emergency care and must be available for immediate recall after

hours. This team operates in the cold zone. However, based on environmental conditions at the incident site, the cordon and conditions may change and rapidly deteriorate. This situation may present an immediate hazard to responders, and responders may be directed by the IC to pull back to a safe location. The cordon and ECP will be re-established if necessary.

11.1.2.1. FRT support will be required at the incident scene (e.g., the ECP, staging area, or other designated points) in support of the response effort. Before responding to the scene, FRT members should acquire the proper safe routes, as well as ECP and staging locations.

11.1.2.2. Victim exposures will range from severe to mild (possibly only psychosomatic). Victims suffering severe exposure may collapse at the incident scene, while victims with mild exposure may depart the scene and seek medical attention immediately or later in the course of events.

11.2. Capabilities and Limitations. The FRT is capable of medically responding to and supporting a CBRN event. AS 886J provides equipment and supplies to treat up to300 casualties. Capabilities include disaster medicine, field triage, and stabilization of casualties for transport. MAAs, MOAs, and MOUs may be in place to provide or enhance AS 886J capabilities. (Not applicable to AFRC medical units.)

11.3. Concept of Operations. This concept of operations focuses on the FRT's ability to respond to a CBRN mass casualty event using the equipment and supplies from AS 886J. Each medical unit must tailor its MCRP Basic Plan and applicable annexes (D, H, etc.) to incorporate the AS 886J capability and support the IEMP 10-2 and DCP.

11.3.1. Activation. MCRP teams are activated by the medical unit commander, MCC, IC, or emergency room immediately upon notification of a suspected CBRN incident, as described in the MCRP. Immediate activation of MCRP teams is needed to ensure a comprehensive and timely response.

11.3.1.1. The FRT is normally activated through the installation emergency communications center (ECC)/dispatch. Upon notification at the medical unit of a CBRN event, simultaneous activation of the patient decontamination, clinical, triage, and manpower/security teams is needed to prevent contaminated casualties from degrading the medical unit's ability to function.

11.3.1.2. MCRP teams will be notified immediately by the MCC of any change in FPCON that may affect the response.

11.3.1.3. Upon activation, the FRT takes the proper safe route to the ECP carrying their field response bags from the AS 886J as needed. FRT may be the first to arrive on scene, depending on the scenario.

11.3.1.4. If the event involves a CBRN release, FRT members should take the following steps to avoid contamination:

11.3.1.4.1. Pull back to a safe distance – do not try to rescue or extract casualties.

11.3.1.4.2. Make proper notifications and requests for assistance. Wait for the proper agencies to respond, such as the fire department and emergency services, so that the proper safety zones, staging areas, and other precautions can be established and patients can be decontaminated.

11.3.1.4.3. If activated for response operations, the MCC assumes C2 of the various MCRP teams within the medical unit and coordinates activities for the FRT through the EOC. The IC (or ESF #8 if activated) assumes command of the FRT on-scene.

11.3.2. Functional Elements. The FRT may include the following functional elements:

11.3.2.1. The field triage element is responsible for initial triage of victims.

11.3.2.2. The treatment element is responsible for stabilization and emergency treatment of victims at the scene after triage. This division may be further divided into sub-elements for each of the major triage categories (immediate, delayed, and minimal). **Note**: Field triage should not use AS 886K assets.

11.3.2.3. The transportation element is responsible for movement of victims from the treatment area at the scene to ambulance loading sites and for movement of casualties to receiving facilities.

11.3.2.4 The administrative element is responsible for initiating and maintaining tracking of patients. This element ensures casualties are tracked as they are transported from the incident scene, noting planned patient destinations upon departure.

11.3.3. Field Triage of CBRN Casualties. Triage in a mass casualty setting should be performed rapidly and with minimal treatment. Field triage should focus on the effects from contamination as well as the severity of injuries. Triage should occur only in the cold zone after patients have been properly decontaminated.

11.3.3.1. Where the scene is not fully controlled or when patients self-present, casualties may not have undergone gross decontamination. FRT members must have situational awareness. They must be able to recognize when a patient has not yet been decontaminated and be aware of where to direct patients for gross decontamination. Gross decontamination involves clothing removal (removes 75-90 percent of contaminants) and washing with water, so if patients are still clothed or have a strong odor, they have not been properly decontaminated and must be redirected immediately.

11.3.3.2. Recommended triage methods are as follows base on local requirements and standards.

11.3.3.2.1. For incidents involving explosive agents (with or without radiation release), chemical agents with delayed onset of action, or overt release of biological agents, the Simple Triage and Rapid Treatment (START) algorithm (see Attachment 8) the JumpSTART Pediatric Multi-casualty Incident (MCI) triage algorithm (see Attachment 9) and Sort- Assess- Lifesaving Interventions- Triage/Treatment (SALT) Triage System (see Attachment 10) provide systematic methods for rapid assessment and categorization of casualties-

11.3.3.2.2. For incidents involving chemical agents with immediate onset of action and for which antidotes exist and are used in the out-of-hospital setting (e.g., nerve agents, organophosphates, or cyanide), prospectively modified triage algorithms that include timely administration of antidotes may be considered efficacious.

11.3.3.2.3. Nothing in this AFTTP precludes the use of other triage methods, provided these alternate methods have been approved by a local competent medical authority and triage personnel have been trained in their use.

11.3.3.2.4. Triage tagging systems that include the casualty's decontamination status should be used. An example of such a tagging system is provided in Attachment 10.

11.3.4. Field Treatment of CBRN Casualties. Treatment at the scene of a CBRN incident is typically based on presumptive diagnosis and might be limited by the availability and skills of the FRT, AS 886J, and existing resources. The FRT initiates treatment with the expectation that follow-on treatment will be performed by the medical unit's clinical teams (immediate, delayed, and minimal) or at an off-installation facility (e.g., community healthcare facility).

11.3.4.1. Treatment should follow pre-established treatment algorithms as defined in the MCRP. **Note**: If MAAs, MOAs, or MOUs task an outside EMS with the primary response, treatment algorithms should follow those of the EMS.

11.3.4.2. Assess the signs and symptoms of exposure to potential CBRN agents or materials and provide appropriate treatment.

11.3.4.3. Implement methods for managing CBRN casualties.

11.3.4.4. Evaluate and treat patients with various burn injuries, including those associated with radiation exposure, blister agent exposure, and thermal burns.

11.3.4.5. Provide emergency treatment of cardiovascular and respiratory compromise or arrest.

11.3.4.6. Evaluate and treat combined injury (CBRN plus trauma) casualties.

11.3.4.7. Recognize the importance of prophylactic interventions that may be affected by treatment regimens.

11.3.4.8. Assist in implementing medical monitoring protocols and any special medical procedures for victims, responders, and medical personnel because of CBRN agents found at the scene.

11.3.5. Patient Transportation. Decontaminated casualties will be transported from the scene after stabilization to designated, fixed-site receiving facilities. **Note:** Do not transport or handle contaminated patients.

11.3.5.1. Transportation and initial distribution of CBRN casualties should be coordinated through existing installation ambulance services or through a community supported EMS system defined in an MAA, MOA, MOU, or contract.

11.3.5.2. A patient administration team member will serve as the scene medical regulator and be responsible for reporting patient status and movement back to the MCC for tracking.

11.3.5.3. Make every effort to prevent contamination of the ambulances and EMS responders. Although risks are minimal from residual contamination, the following precautions are advised during transport:

11.3.5.3.1. All personnel accompanying victims should follow universal precautions, including the use of gloves, approved masks, and long-sleeved shirts.

11.3.5.3.2. If feasible, return the patient to the decontamination cleaning area for additional cleaning. If not feasible, do the following to minimize the spread of contamination:

11.3.5.3.2.1. Set the rear vent fan to high, and set the heating and cooling system to fresh air (not recirculated) to increase fresh-air exchanges and prevent the build-up of vapors.

11.3.5.3.2.2. Verify all clothing and personal effects have been removed and sealed in disposable, double bags.

11.3.5.3.2.3. Wrap the patient in a disposable tarp or blanket to prevent or minimize contaminating the inside of the vehicle.

11.3.5.3.2.4. Notify the receiving hospital that the incoming patient shows evidence of possible contamination so that patient decontamination procedures can be activated. This process includes decontamination of medical personnel.

11.3.6. Evidence Preservation at the Scene. FRT personnel should follow established procedures for collecting, handling, bagging, securing, and identifying potential evidence, including casualty personal effects.

11.3.6.1. The collection and security of potential evidence is not the primary mission during medical management of CBRN casualties. However, medical personnel must understand there may be instances where the collection, temporary security, and transfer of physical evidence to law enforcement are warranted. Medical supplies and equipment may also be scrutinized for evidence during the post-incident criminal investigation.

11.3.6.2. Procedures must be developed for conveying information obtained from casualties that have potential forensic value to law enforcement officials. Release of information must comply with the Health Insurance Portability and Accountability Act (HIPAA).

11.3.7. Handling of Deceased Human Remains. Mortuary affairs functions are not considered the responsibility of the FRT. However, the team may be tasked to assist in the initial handling and securing of human remains at the scene. Human remains should not be moved until cleared by law enforcement or forensic officials.

11.4. Manning. FRT personnel provide initial response to the scene and consist of emergency room or aerospace medicine ambulance response personnel. Follow-on support is provided by additional FRT members, Patient Admin Team or members of other MCRP teams . Requests for additional support must flow from the incident site to the IC, then to the ESF #8 representatives who will contact the MCC.

11.5. Integration. Medical unit response planning must include integration and coordination with other medical unit MCRP teams and their respective 886 AS. This integration and coordination must also correlate with the MCRP, DCP, and installation IEMP 10-2 to ensure a seamless response with other installation agencies. Follow-on response capabilities from local, state, tribal, and federal agencies should be identified, coordinated, and exercised before a CBRN event.

11.5.1. Horizontal Integration. The FRT integrates directly with the first responders at the incident site. However, they remain in a safe (cold) zone and take guidance from the senior medical representative through the IC. All interactions with other response organizations must be coordinated through the EOC. Except as authorized by the medical unit commander or the MCC team chief during response operations, there will be direct integration with local, state, tribal, and federal EMS and healthcare response resources at the incident site on the installation. If an off-installation response is required, the installation IEMP 10-2 provides Defense Support of Civilian Authorities (DSCA) guidance on actions that military commanders or responsible officials may take to save lives and prevent human suffering.

11.5.2. Vertical Integration. All communications and requests for assistance or information by or to higher echelon or supporting Air Force or DOD commands, as well as local, state, tribal, or federal follow-on resources, should be coordinated through the EOC by the MCC.

11.5.3. Additional Resources. The acquisition of additional services, equipment, and supplies in a CBRN event may be necessary when there is a depletion of the AS 886J. The POS, installation WRM caches (upon approval), and additional personnel needed to support the FRT mission should be acquired within the medical unit or through outside assistance (i.e., community EMS, NDMS, or healthcare facilities).

11.6. Equipment and Supplies. The FRT uses the assets on AS 886J. The materials in AS 886J provide universal protections and rapid response and treatment of gross injuries among mass casualties. AS 886J includes the following sub-assemblages:

- Sub Assemblage AA–Admin
- Sub Assemblage I1–Infrastructure
- Sub Assemblage PA–Pharmacy reconstitution
- Sub Assemblage PT–Patient Treatment
- Sub Assemblage S1–Safety

11.6.1. Pharmaceuticals. Pharmaceutical supplies in support of field response operations are maintained by the pharmacy team (AS 886E). The FRT and pharmacy team should develop practices to ensure delivery of required pharmaceutical supplies for on-scene field response operations.

11.6.2. Customization. For pack-out purposes, AS 866J may be repackaged or configured to meet local needs. Resources may be added to the 886J package locally based upon specific local needs.

11.6.3. Pre-Positioning. AS 886J equipment and supplies will be pre-positioned as determined by the FRT chief for optimal access in a disaster situation.

Chapter 12

TRIAGE

12.1. Introduction. This chapter provides procedures for medical unit triage capabilities. It will assist medical unit planners in developing MCRP procedures to respond to a CBRN incident, peacetime accident, or natural disaster and provide guidance on managing and employing AS 886K. (See Chapter 16 for the ANG triage capabilities.)

12.1.1. Triage Overview. Triage refers to the CBRN response capability provided by AS 886K supplies. This capability must be integrated into the MCRP procedures and checklists. AS 886K supplies are intended to be used by existing triage teams. New MCRP teams should not be created to implement this capability.

12.1.1.1. The triage team chief manages AS 886K and coordinates how the supplies should be packaged for rapid response. The team chief should coordinate with the pharmacy team chief on procedures for accessing and incorporating the pharmaceuticals from AS 886E into the triage team's medical response bags.

12.1.1.2. Triage response includes primary triage of self-presenters to the MTF before patient decontamination; evidence preservation at the medical decontamination zone; re-triage of decontaminated casualties; post-event prophylaxis dispensing; and documentation and reporting of asset status through MRDSS and DMLSS after the incident.

12.1.2. Assumptions. The triage team must be able to respond and be functional at all times when the medical unit is open for patient care. They must be available for immediate recall after hours. Primary triage of CBRN casualties will be conducted at the ECP of the medical unit's decontamination zone.

12.1.2.1. All patients who present to the ECP will be re-assessed to determine whether they have been grossly decontaminated. Patients who are deemed not contaminated will be directed away from the decontamination zone through a clean lane and routed directly to secondary triage.

12.1.2.2. Medical units will incorporate local procedures into their respective MCRPs. Plans should include specific setup procedures, setup diagrams, and team checklists.

12.1.2.3. Historically, CBRN incidents result in a ratio of approximately 7:1 psychiatric casualties to casualties directly resulting from the incident. These patients need to be quickly identified and directed away from the warm zone so that they do not interfere with triage and treatment.

12.2. Capabilities and Limitations. The capabilities and limitations of the triage team will vary depending on the number of patients presenting. AS 886K provides equipment and supplies

to triage up to 300 casualties. MAAs, MOAs, or MOUs may be in place to provide or enhance triage capabilities. The team is divided into primary and secondary triage teams.

12.2.1. Primary Triage Team. The primary triage team receives and triages self-presenters and casualties who are transported to the medical unit.

12.2.2. Secondary Triage Team. The secondary triage team performs triage/re-triage of patients who have undergone patient decontamination procedures.

12.3. Concept of Operations. This concept of operations focuses on the triage team's (primary and secondary) ability to respond to a CBRN event using the equipment and supplies from AS 886K. Each medical unit must tailor its MCRP Basic Plan and applicable Annexes (D, N, etc.) to incorporate the triage team AS 886K capability and support the IEMP 10-2.

12.3.1. Activation. Immediate activation of MCRP teams is required to ensure a comprehensive and timely response. Medical units should incorporate team activation procedures into the MCRP and local checklists. Upon activation, the triage team responds to their rally point within the medical unit with their triage bags and appropriate PPE.

12.3.1.1. When activated for response operations, the MCC assumes C2 of all MCRP teams operating within the medical unit.

12.3.1.2. Medical units must incorporate procedures for tracking the accountability of all medical personnel responding to the event and establish reporting procedures through the MCC.

12.3.2. Triage Methods. CBRN mass casualty triage differs from triage performed daily in the emergency care system because patients could potentially be contaminated. The type of triage system used should be formalized in the medical unit's MCRP and installation IEMP 10-2 and should support clinical teams in the medical unit and community healthcare facilities that may ultimately receive decontaminated and stabilized patients. The START algorithm (see Attachment 8), the JumpSTART Pediatric MCI triage algorithm (see Attachment 9) and Sort- Assess- Lifesaving Interventions- Triage/Treatment (SALT) Triage System (see Attachment 10) provide systematic methods for rapid assessment and categorization of casualties.

12.3.3. Triage Operations. Triage personnel, in conjunction with the manpower/security team, may be the first to come into contact with a contaminated victim and are required to know the type, location, and proper use of available PPE. As with all PPE use, the potential for heat stress or exhaustion can be a serious limiting factor for team members. The team chief must encourage the consumption of fluids and rotate members before they succumb to the effects of heat stress. Consult AFMAN 10-2503 to determine heat stress factors. Communication with the patient and with other medical first receivers can be challenging while wearing the PAPR and hood. Use of hand signals, bull horns, and voice amplifiers can help overcome this limitation.

12.3.3.1. The primary triage team should report to their assembly area inside the MTF and don the OSHA Level C PPE provided in AS 886K before reporting to the entrance of the patient decontamination zone. The team should establish a staging area within the medical unit's decontamination zone (warm zone) for receiving and triaging patients. Primary triage should focus on the injuries as well as determination of whether casualties require decontamination or re-decontamination based on potential exposure. Because decontamination is a time limiting step in the treatment process, patients must be triaged and receive any needed lifesaving emergency medical treatment before decontamination.

12.3.3.2. For patients who do not require decontamination, a clean lane will be established to route patients directly to the secondary triage area.

12.3.3.3. Patients awaiting decontamination will be staged based on the triage category. The primary triage team triages casualties using the following categories: delayed, immediate, and minimal (DIM). Once ABC's are established and the patient may be stable or still unstable, the patient will be directed to the appropriate decontamination lane (i.e., ambulatory or non-ambulatory) for processing through the patient decontamination tent.

12.3.3.4. After decontamination, the secondary triage team re-triages patients based on their injury to include previous exposure. The secondary triage team should stage inside the medical unit or as close as possible to protect patients and first receivers from hypothermia and to shorten the distance that patients have to be transported. The team is not required to don Level C PPE to perform their duties. PPE is required to meet universal precautions, which may include but are not limited to patient exam gloves, gowns, protective eyewear, and protective masks, depending on the nature of the hazard.

12.3.4. Radiological Dose Tracking. The triage team chief should coordinate with the installation radiation safety officer (IRSO) to develop procedures for radiological dose tracking for personnel working outdoors.

12.4. Manning. The primary and secondary triage teams should each be comprised of at least one provider (physician, dentist, physician assistant, or IDMT) and one nurse or medical technician.

12.5. Integration. Triage response planning must include integration and coordination with other medical unit MCRP teams and their respective 886 AS. This integration and coordination must also correlate with the MCRP, DCP, and installation IEMP 10-2 to ensure a seamless response with other installation agencies. Follow-on response capabilities from local, state, tribal, and federal agencies should be identified, coordinated, and exercised before a CBRN event.

12.5.1. Horizontal Integration. Triage planning should be coordinated with other medical unit teams responsible for decontaminating, treating, and stabilizing self-presenters at the medical unit or victims at the incident site. All interactions with other response organizations or work centers within the organizations must be coordinated through the MCC. Medical

unit teams supporting this function are described in the MCRP and include clinical team personnel and available manpower/security personnel who provide patient movement support to the secondary triage team.

12.5.2. Vertical Integration. All communications and requests for assistance or information by or to higher echelon or supporting Air Force or DOD commands, as well as local, state, tribal, or federal follow-on resources, should be coordinated through the EOC by the MCC. The triage team must not communicate directly with outside agencies without prior approval from the MCC.

12.5.3. Additional Resources. The acquisition of additional services, equipment, and supplies during a CBRN event may be necessary if there is a depletion of AS 886K. Installation WRM caches (upon approval) and additional personnel needed to support the triage team mission should be acquired from the medical unit or through outside assistance (i.e., community EMS, NDMS, or healthcare facilities).

12.6. Equipment and Supplies. The triage team uses the materials on AS 886K. The materiel in AS 886K supports triage of injuries among mass casualties. AS 886K includes the following sub-assemblages:

- Sub Assemblage AA–Admin
- Sub Assemblage PA–Pharmacy
- Sub Assemblage PT–Patient Care Treatment
- Sub Assemblage S1–Safety

12.6.1. Pharmaceutical Supplies. Pharmaceutical supplies in support of triage team operations are maintained by the pharmacy team.

12.6.2. Customization. AS 886K can be packaged or configured to meet local needs.

12.6.3. Pre-Positioning. AS 886K equipment and supplies should be pre-positioned as determined by the triage team chief for optimal access in a disaster situation.

12.6.4. Personal Protective Equipment. AS 886K provides PPE for use by the primary triage team. PPE includes a loose-fitting (hooded) PAPR, DTAPS, chemical boots, chemical resistant glove liner, and gloves. Inspections of the hood and PAPR, to include flow check, are required every 30 days to maintain mission-ready status, and should be documented on AF Form 1071, Inspection/Maintenance Record. **Note:** PAPRs should be pre-assembled and stored in a ready status. Monthly flow checks should be performed to ensure they are operational, and PAPR batteries should be kept charged at all times.

Chapter 13

CLINICAL AND NURSING SERVICES

13.1. Introduction. This chapter provides procedures for clinical and nursing services capabilities. It will assist medical unit planners in developing MCRP procedures to respond to a CBRN incident, peacetime accident, or natural disaster and provides guidance on managing and employing AS 886L and AS 886D.

13.1.1. Clinical Response Overview. Clinical response refers to the CBRN response capability provided by AS 886L supplies. This capability must be integrated into the MCRP clinical team's procedures and checklists. AS 886L supplies are intended to be used by existing MCRP teams. New MCRP teams should not be created to implement this capability.

13.1.1.1. The clinical MCRP team chief manages AS 886L and coordinates the organization of supplies for optimum treatment of medical casualties.

13.1.1.2. Clinical response includes treatment of CBRN casualties; evidence preservation at the medical unit; treatment of decontaminated casualties arriving at receiving medical units; clinical sample collection; disposition of casualties after emergency treatment (including fatality management); assisting in coordination with civilian treatment facilities on patient-specific clinical information; hospitalization of victims or disposition to self- or home-care; preparation for medical evacuation; crisis and military community counseling; assistance in mass, pre- and post-event prophylaxis dispensing or vaccination; and documentation and reporting of asset status through MRDSS and DMLSS after the incident.

13.1.2. Nursing Services Augmentation. The nursing services capability is a cache of medical supplies (AS 886D) to augment the medical supplies on AS 886L. AS 886D is only used at medical units with an inpatient capability. Most of this chapter addresses specific procedures for response with AS 886L, but these procedures also apply to AS 886D for inpatient facility settings.

13.1.3. Assumptions. The clinical team must be able to respond and be functional at all times when the medical unit is open for patient care and must be available for immediate recall after hours. Planning is based on the following assumptions:

13.1.3.1. Treatment of CBRN casualties may need to be conducted within the parent medical unit, at remote fixed sites, or at other out-of-hospital locations. **Note:** For simplicity, procedures described in this chapter assume treatment is being conducted in the medical unit.

13.1.3.2. Medical unit capabilities vary and different scenarios may have different health and medical requirements. Therefore, each medical unit may employ AS 886L with the flexibility it requires based on available MCRP teams, local response concepts, and disaster plans.

13.1.3.3. Clinical teams will receive patients after they have been decontaminated and re-triaged.

13.1.4. Background. CBRN incidents may result in an overwhelming number of casualties, well beyond the capacity of the civilian and military community healthcare system. Victim exposures will range from severe to mild (possibly only psychosomatic). Victims suffering severe exposure may collapse at the incident scene, while victims with mild exposure may depart the scene and seek medical attention immediately or later in the course of incidents. The degree of treatment provided to casualties of a CBRN event depend on a number of variables, including the agent employed, number of casualties requiring treatment, capacity of the medical unit (manning, material, and bed space), and availability of and access to other sources of care. AS 886L supplies are packaged in treatment bags and stored for use in an easily accessed storage location for use by the clinical teams.

13.2. Capabilities and Limitations. The clinical team is capable of providing basic medical treatment in support of a CBRN event. AS 886L provides equipment and supplies to support the treatment of 300 casualties. Capabilities include disaster medicine and treatment of casualties. The clinical team provides treatment and stabilization to casualties within the medical unit or at an alternate medical unit. MAAs, MOAs, or MOUs may be in place to provide or enhance AS 886L capabilities. (Not applicable to AFRC medical units.)

13.2.1. Resources. The clinical team is normally divided into minimal, immediate, and delayed teams. To minimize the impact on resources, smaller units with limited manpower may organize their personnel into one team rather than dividing the team.

13.2.1.1. Expectant patients normally are those patients who are hopelessly injured or who require inordinate medical treatment to the detriment or neglect of other patients. As a rule, this category is not applied in a peacetime disaster, unless the facility is totally overwhelmed with casualties.

13.2.1.2. During facility lockdown, the team may have to provide care to pre-incident patients in the medical unit. These patients may be considered as a manning resource.

13.2.2. PPE. This team does not use specialized CBRN PPE in the execution of their duties. PPE is generally restricted to universal precautions, which may include patient exam gloves and surgical masks depending on the nature of the hazard involved. **Note:** During infectious disease outbreaks, N95 masks will be issued from the SG05 package to all patient care personnel.

13.3. Concept of Operations. This concept of operations focuses on the clinical team's ability to treat casualties resulting from a CBRN mass casualty event using the equipment and supplies in AS 886L. Each medical unit must tailor its MCRP Basic Plan and applicable annexes to incorporate the clinical AS 886L capability and support the IEMP 10-2.

13.3.1. Activation. Medical unit response is normally activated through the installation ECC/dispatch. Immediate activation of MCRP teams is required to ensure a comprehensive and timely response.

13.3.1.1. Upon notification of a suspected mass casualty event, the medical unit commander, MCC, or emergency room activates the clinical team IAW the MCRP.

13.3.1.2. MCRP teams should be notified immediately by the MCC of any change in FPCON that may affect the response.

13.3.1.3. Upon activation, the clinical team responds to the pre-designated rally point with their response bags, equipment, and supplies from AS 886L.

13.3.1.4. The primary triage and manpower/security teams respond outside the medical unit to support the patient decontamination team, donning OSHA Level C PPE.

13.3.1.5. The secondary triage team stages just inside the medical unit to receive and re-triage patients who have been decontaminated by the patient decontamination team.

13.3.1.6. If activated for response operations, the MCC assumes C2 of the various MCRP teams within the medical unit and coordinates patient flow activities within the medical unit for the clinical team.

13.3.2. Clinical Teams. The clinical teams are responsible for emergency stabilization, treatment, and disposition of decontaminated and triaged victims in the emergency department or other treatment areas designated inside the medical unit.

13.3.2.1. The minimal team organizes personnel and resources as the situation warrants to provide care for minimally injured patients at the medical unit with the intent of returning personnel to duty in the shortest amount of time possible.

13.3.2.2. Patients whose triage category is immediate or delayed are stabilized and transferred to the appropriate patient treatment locations within the medical unit or prepared for transport to a definitive care facility in the local community.

13.3.2.3. The immediate and delayed teams organize personnel and resources as the situation warrants to provide stabilization and treatment for patients affected by a CBRN event.

13.3.2.4. If no inpatient capability exists at the medical unit, the patient administration team coordinates transport in conjunction with the MCC, ambulance services, or community EMS and local hospitals based on previously established MAAs, MOAs, MOUs, and contracts.

13.3.2.5 For radiological contingencies, clinical teams must have procedures for documenting radiation exposures in medical records for patients and medical personnel.

13.3..2.6 Documentation should include symptoms, time of onset of symptoms, location during exposure, amount of time exposed, and distance from the incident site. All assessments of no exposure should be captured in the medical record.

13.3.2.7 Long-term medical surveillance is mandatory for all patients with an acute exposure of greater than 5 rems and for patients with suspected uptake of radioactive material (ingestion, inhalation, absorption).

13.3.2.8. BEE and other experts should be consulted for patient dose estimates.

13.3.3. Additional Medical Unit Support. The following MCRP teams support clinical operations.

13.3.3.1. The laboratory MCRP team provides laboratory support for the clinical teams at the medical unit and may support clinical specimen collection, evidence preservation, and chain of custody procedures. Clinical specimen collection may be required during the course of evaluation and treatment of victims.

13.3.3.1.1. Procedures for collecting, handling, and delivering samples to the clinical laboratory by the clinical teams should be developed and articulated in the MCRP.

13.3.3.1.2. Clinical sample analysis for biowarfare agents is performed by the LBDT using AS 886I. (See Chapter 10.) If a clinical specimen requires packaging for shipment to other laboratories, the laboratory MCRP team or LBDT should follow developed procedures IAW IATA requirements for packaging and shipment of a biological specimen.

13.3.3.2. The radiology team provides diagnostic imaging support for the clinical teams at the medical unit.

13.3.3.3. The pharmacy team provides pharmaceutical support to the clinical teams using AS 886E. (See Chapter 8.)

13.3.3.4. The nursing services team, where applicable, interfaces with the clinical teams if patients require admittance for further care.

13.3.3.4.1. Immediately upon activation, the nursing services team determines the appropriate staffing of nurses and medical technicians to support mass casualties in response to a CBRN event.

13.3.3.4.2. The nursing services team should validate total physical beds available for occupancy versus total patient census through a bed management protocol.

13.3.3.4.3. If AS 886D is needed to support operations, the nursing services team should notify medical logistics through the MCC.

13.3.3.5. For medical units with inpatient capability supported with pre-existing assets, the surgery team handles all CBRN casualties requiring surgery that are referred from the clinical teams (i.e., seriously injured patients with a good chance of survival if immediate care and life support is received).

13.3.3.5.1. The supply of stock items should be determined as soon as possible to ensure adequate supplies are available.

13.3.3.5.2. If necessary, AS 886D assets should be requested from medical logistics and used.

13.3.3.6. The crisis response team is responsible for providing mental health services. This team may provide care for responders, victims, families, and other persons affected by the incident inside or outside the medical unit.

13.3.3.7. The manpower/security team supports the clinical teams with patient movement within the medical unit as well as from the medical unit to transport vehicles (i.e., ambulances, ambulance bus [AMBUS]). If vehicles are needed to perform these operations, this requirement should be coordinated with the medical VCO and the MCC.

13.3.3.8. The patient administration team assists the clinical teams with tracking patients within the medical unit and at community healthcare facilities. They coordinate patient transport in conjunction with the MCC, ambulance services, or community EMS and local hospitals based on previously established MAAs, MOAs, MOUs, and contracts. **Note:** At the scene, the FRT or a regional coordinator may coordinate patient transport to local higher levels of care facilities.

13.3.3.9. The PH team provides epidemiological surveillance, prevention and control measures, as well as investigations and reporting of biological incidents. They provide medical intelligence and coordinate with BEE on HRAs for the clinical teams during a CBRN event.

13.3.3.10. The PHEO assists the BEE with the assessment of the clinical capability and the impact of a CBRN threat. The PHEO recommends appropriate actions to protect forces and serves as the medical POC for the treatment portions of the MCRP Annex N.

13.3.3.11. The medical unit's PA personnel coordinate risk communication plans with the PHEO, PH, crisis response team, and installation PA representatives before providing any information releases to the media. In the event of a biological event, the local health

department should be consulted and included in the risk communications plan before any release of information to ensure a coordinated and consistent message is released.

13.3.4. Evidence Preservation. During treatment operations, personnel may be required to implement established, standardized procedures for the collection, handling, bagging, securing, and identification of potential evidence, including casualty personal effects.

13.3.4.1. The collection and security of potential evidence is not the primary mission during medical management of CBRN casualties. However, medical personnel must understand there may be instances where the collection, temporary security, and transfer of physical evidence to law enforcement are warranted. Medical supplies and equipment may be scrutinized for evidence during the post-incident criminal investigation.

13.3.4.2. Procedures must be developed for conveying information obtained from casualties that have potential forensic value to law enforcement officials. Release of information must comply with HIPAA.

13.3.5. Handling of Deceased Human Remains. Although mortuary affairs functions are not considered the responsibility of clinical teams in the medical unit, medical unit personnel may be tasked to assist in the handling and securing of human remains at the medical unit. Handling of human remains should be minimized until cleared by law enforcement or forensic officials.

13.3.6. Triage. Triage is a continual process throughout the medical treatment regimen. The type of triage system used to support clinical teams in the medical unit as well as community healthcare facilities that may ultimately receive decontaminated and stabilized patients is formalized in the medical unit's MCRP and installation IEMP 10-2. In a CBRN event, victims who self-present to the medical unit will first be directed through a primary triage area. The primary triage team is responsible for triaging victims before decontamination. See Chapter 12 for more information on triage operations.

13.3.7. Casualty Care for Radiation Accident Victims. During all radiological incidents, consider all open wounds contaminated until proven otherwise. Assume embedded foreign bodies will produce an internal dose, and attempt to prevent or minimize further uptake of radioactive material into the body. Use the following procedures for treatment of contaminated wounds.

13.3.7.1. Prepare a treatment room. Select a treatment room near an outside entrance, and clear the area of visitors and patients.

13.3.7.1.1. Establish the treatment room as a controlled area with a demarcated control line to prevent the spread of contamination and a secondary control line or buffer zone as added security.

13.3.7.1.2. Implement all established controlled area procedures (e.g., logging entrants). Consult the IRSO during planning to establish procedures.

13.3.7.1..3. Remove or cover all equipment not required for emergency care.

13.3.7.1.4. Cover the treatment room floor with wrapping or butcher paper and tape to make clean-up easier.

13.3.7.1.5. Cover the treatment table with several layers of water-proof disposable plastic sheeting. Use waterproof materials such as a waterproof aperture drapes.

13.3.7.1.6. Mark the exposed side of coverings with an "X" so the team knows which side should be rolled into the center.

13.3.7.1.7. Document background radiation levels in the treatment room before patients enter. Consult with the IRSO to determine background levels.

13.3.7.2. Begin patient treatment. Restrict access to all but the treatment team and patients.

13.3.7.2.1. Attempt to determine the radionuclide involved. The radionuclide involved determines which medical interventions could help eliminate the material from the patient's body (i.e., diethylenetriamine pentaacetic acid (DTPA) or other chelating agent.)

13.3.7.2.1.1. The IRSO may have detectors that could help with identification.

13.3.7.2.1.2. Consult USAPHC TG 244 for technical information on medical treatments.

13.3.7.2.2. Monitor all personnel and items leaving the treatment room to ensure contamination isn't spread from the room to other areas of the MTF.

13.3.7.2.3. Follow strict isolation precautions such as protective clothing and double bagging, use of plastic-lined containers for waste items (e.g., linens, dressings), and ventilation control.

13.3.7.2.4. Delineate areas of gross bodily contamination and cover with plastic before surgery.

13.3.7.2.5. Before surgical incision, wash the area with normal saline, betadine, and/or hydrogen peroxide.

13.3.7.2.6. Change surgical instruments, outer gloves, and drapes when they become contaminated to avoid the spread of contamination.

13.3.7.2.7. Use routine antisepsis procedures to protect operating room staff against contamination.

13.3.7.3. Perform patient and room decontamination procedures.

13.3.7.3.1. Consult the IRSO for equipment monitoring and wipe tests as well as control and disposal procedures for contaminated waste to include contaminated tissue removed from the victim.

13.3.7.3.2. Personnel should be monitored for exposures before they leave the room.

13.3.7.3.2.1. Hospital activities guidance is available on the U.S. Department of Health and Human Services REMM website at the following URL: http://www.remm.nlm.gov/hospitalprep.htm

13.3.7.3.3.2. For more information on internal contaminant radio nuclides, see the *Medical Management of Radiological Casualties Handbook, Appendix B, Table of Internal Contaminant Radionuclides,* at the following URL: http://www.afrri.usuhs.mil/www/outreach/pdf/2edmmrchandbook.pdf

13.4. Manning. Clinical team personnel provide stabilization and treatment of casualties. Additional manning is provided by uncommitted members of the MCRP manpower/security team. The clinical team can be divided into minimal, delayed, and immediate teams, as needed. Fielding of these teams may not apply at all medical units based on the size and capacity of the medical unit and local capabilities supported by MAAs, MOAs, and MOUs.

13.4.1. Minimal Team. This team treats patients with minor injuries who require some attention but whose injuries are so minor, they may not need a physician.

13.4.2. Delayed Team. This team treats patients whose injuries do not jeopardize life if definitive treatment is delayed.

13.4.3. Immediate Team. This team treats patients whose injuries demand immediate medical or surgical intervention to save their lives or limbs.

13.4.4. Nursing Services Augmentation. At facilities assigned AS 886D, a nursing services team is established and responsible for maintenance and management of the AS.

13.5. Integration. Medical unit response planning must include integration and coordination with other medical unit MCRP teams and their respective 886 AS. This integration and coordination must also correlate with the installation IEMP 10-2 to ensure a seamless response with other installation agencies. Follow-on response capabilities from local, state, tribal, and federal agencies should be identified, coordinated, and exercised before a CBRN event.

13.5.1. Coordination with Pharmacy. The clinical team chief should coordinate with the pharmacy team chief on procedures for accessing and incorporating the pharmaceuticals on AS 886E into the overall medical capability of AS 886L.

13.5.1.1. If mass prophylaxis distribution is required, clinical team providers should support the pharmacy team chief with appropriate health screening before dispensing medications.

13.5.1.2. If a pandemic outbreak occurs, the clinical team chief should coordinate distribution of SG05 and SG06 assets and request additional support as needed. The pharmacy team chief is responsible for coordination and distribution of SG06 pharmaceuticals during a pandemic outbreak. The clinical team chief is responsible for the maintenance and management of the SG05 assets.

13.5.2. Horizontal Integration. The clinical team is directly integrated into the medical unit's response organization as delineated in the MCRP. All interactions with other response organizations should be coordinated through the MCC. The team may directly integrate with local, state, tribal, and federal EMS or healthcare response resources at the medical unit during response operations when authorized by the medical unit commander or MCC team chief or as defined in MAAs, MOAs, or MOUs.

13.5.3. Vertical Integration. All communications and requests for assistance or information by or to higher echelon or supporting Air Force or DOD commands, as well as local, state, tribal, or federal follow-on resources, should be coordinated through the EOC by the MCC. The clinical team should not communicate directly with outside agencies without prior approval from the MCC.

13.5.4. Additional Resources. The acquisition of additional services, equipment, and supplies during a CBRN event may be necessary if there is a depletion of AS 886L or the clinical treatment effort is overwhelmed. If AS 886L is depleted, AS 886D assets will be used for medical units with inpatient capabilities. WRM caches (upon approval) and additional personnel needed to support the clinical team mission should be acquired within the medical unit or through outside assistance (i.e., community EMS, NDMS, or healthcare facilities).

13.6. Equipment and Supplies. The clinical team uses the assets on AS 886L/D. AS 886L and 886D each contain medical equipment and supplies to treat 300 casualties. AS 886L includes advanced medical supplies to augment existing medical unit caches in emergency stabilization and treatment. AS 886D includes medical supplies to augment AS 886L for inpatient facilities and does not contain any sub-assemblages. AS 886L contains the following sub-assemblages:

- Sub Assemblage AA–Admin
- Sub Assemblage I1–Infrastructure
- Sub Assemblage PA–Pharmacy
- Sub Assemblage PT–Patient Treatment
- Sub Assemblage S1–Safety

13.6.1. Pharmaceutical Supplies. Pharmaceutical supplies in support of clinical operations are maintained by the pharmacy team.

13.6.2. Customization. AS 866L may be repackaged or configured to meet local needs.

13.6.3. Pre-Positioning. AS 886L equipment and supplies will be pre-positioned as determined by the clinical team chief for optimal access in a disaster situation. AS 886D equipment and supplies will be pre-positioned as determined by the nursing services team chief or other locally assigned team chief.

Chapter 14

MANPOWER/SECURITY

14.1. Introduction. This chapter provides procedures for medical unit manpower and security capabilities. It will assist medical unit planners in developing MCRP procedures to respond to a CBRN incident, peacetime accident, or natural disaster and provide guidance on the management and employment of AS 886M. **Note:** The manpower and security functions have been combined into a single team.

14.1.1. Manpower/Security Overview. Medical unit manpower/security refers to the CBRN response capability provided by AS 886M. This capability must be integrated into the MCRP procedures and checklists. AS 886M supplies are intended to be used by an existing MCRP team. New MCRP teams should not be created to implement this capability.

14.1.1.1. The manpower/security team coordinates how AS 886M supplies are stored and accessed to ensure an integrated, rapid response.

14.1.1.2. Manpower/security team incident response activities include securing the medical unit when access is limited/controlled; providing security support for the patient decontamination team and mass prophylaxis dispensing locations; and documentation and reporting of asset status through MRDSS and DMLSS after the incident.

14.1.1.3. The manpower/security decon support team is a subset of the manpower/security team and works in the hospital decontamination zone in support of the patient decontamination process.

14.1.2. Assumptions. The manpower/security team must be able to respond and be functional at all times when the medical unit is open for patient care and must be available for immediate recall after hours. Planning factors are based on the following assumptions:

14.1.2.1. The manpower/security decon support sub-team will be organized to support the medical unit patient decontamination warm zone. Duties include but are not limited to establishing an ECP and cordon and assisting with patient movement. They may also be required to assist in the patient decontamination shelter setup.

14.1.2.2. Medical units will incorporate local procedures into their respective MCRP. The MCRP should include specific setup procedures, setup diagrams, and team checklists.

14.1.2.3. Medical unit capabilities vary. Therefore, each medical unit may employ AS 886M with the flexibility it requires based on available MCRP teams, local response concepts, and disaster plans.

14.1.2.4. Manpower/security team support, to include the decon support sub-team, will be required at the medical unit only.

14.1.2.5. The manpower/security team may require additional support from SF if the incident becomes unmanageable.

14.2. Capabilities and Limitations. Capabilities and limitations of the manpower/security team will vary depending on the type and location of the incident and the number of patients self-presenting or being transported to the medical unit. MAAs, MOAs, or MOUs may be in place to provide or enhance existing capabilities.

14.2.1. Resources. The manpower/security team provides basic medical unit security and also provides manpower to move patients throughout the decontamination and triaging processes. AS 886M provides equipment and supplies to secure the medical unit and control vehicular access with the intent to provide crowd control for 300 casualties.

14.2.2. PPE. Security and patient movement duties may take place in the patient decontamination warm zone in support of patient decontamination operations. The manpower/security team is equipped with and trained to use appropriate PPE for protection against CBRN hazards when performing manpower and security duties in the medical unit's decontamination warm zone.

14.3. Concept of Operations. This concept of operations focuses on the manpower/security team's ability to provide medical unit security during a CBRN event using the equipment and supplies in AS 886M. The manpower/security team provides facility security and the manpower/security decon support sub-team provides support for the patient decontamination process. Each medical unit must tailor its MCRP Basic Plan and applicable annexes (e.g., D, H, I, J, M, N, P, Q) to incorporate the manpower/security team AS 886M capability and support the IEMP 10-2.

14.3.1. Activation. Immediate activation of the MCRP teams is required to ensure a comprehensive and timely response. Medical units should incorporate team activation procedures into the MCRP and local checklists.

14.3.1.1. Upon notification of a CBRN event at the medical unit, simultaneous activation of the patient decontamination, clinical, triage, and manpower/security teams is needed to prevent contaminated casualties from degrading the medical unit's ability to function.

14.3.1.2. Upon activation, the manpower/security team meets at the designated rally point with the PPE bags from AS 886M. The team chief determines team assignments, specifically which personnel should respond outside the medical unit to support the decontamination zone with OSHA Level C PPE.

14.3.1.3. When activated, the MCC assumes C2 of all MCRP teams operating within the medical unit. Medical units should incorporate procedures for tracking the accountability of all medical personnel responding to the event and establish reporting procedures through the MCC.

14.3.2. Medical Unit Security. During an incident involving CBRN agents, the manpower/security team is responsible for providing security around the medical unit and securing the facility against potential contamination. The security team typically is responsible for restricting vehicular access to the area around the medical unit. Controlled access to the medical unit must be assured. Medical units must develop local plans to secure entries (manually or electronically) and if necessary post door guards during a CBRN incident.

14.3.2.1. As soon as a CBRN incident is suspected or the medical unit receives notification of an actual event, entry doors must be immediately secured to keep contamination out and ensure that decontamination is performed before entry into the medical unit. In most instances, the manpower/security team is responsible for ensuring the facility's exits and entrances are controlled, monitored, and locked. This function is normally performed within minutes of discovering the occurrence or notification of an event.

14.3.2.2. During the process of securing the medical unit, manpower/security team personnel may have to exit the medical unit and manage potentially contaminated victims. Manpower/security personnel must know the location of and how to use appropriate PPE.

14.3.2.2.1. As with all PPE use, the potential for heat stress or exhaustion can be a serious limiting factor for team members. The team chief must encourage the consumption of fluids and rotate members before they succumb to the effects of heat stress. Consult AFMAN 10-2503 to determine heat stress factors.

14.3.2.2.2. Communication with the patient and with other medical first receivers can be challenging while wearing the PAPR and hood. Use of hand signals, bull horns, and voice amplifiers can help overcome this limitation.

14.3.2.3. At the medical unit, the primary triage team and members of the manpower/security decon support sub-team respond and work in the vicinity of the patient decontamination area (considered an operational medical first receiver area). The manpower/security decon support sub-team is responsible for assembling and providing instructions to all self-presenting victims to prevent the possibility of bystander exposure to off gassing or residual CBRN agents.

14.3.2.3.1. The manpower/security decon support team is responsible for providing crowd control to ensure that victims keep their distance from the triage and patient decontamination team members until these teams and their resources (e.g., decon shelter) are in place and ready for use.

14.3.2.3.2. Victims who were decontaminated on-scene and transported to the medical unit may be directed to bypass the patient decontamination area and be re-triaged by the secondary triage team.

14.3.2.4. AS 886M provides barriers for vehicle control. The quantity will vary based on the physical layout of each medical unit and the installation's barrier plan. These barriers should be used to direct traffic around the medical unit and direct personnel toward the patient decontamination entrance.

14.3.2.5. The manpower/security team chief should coordinate with the IRSO to develop radiological dose tracking procedures for personnel working outdoors.

14.4. Manning. The manpower/security team provides controlled access to the medical unit, secures the perimeter of the medical unit, and provides crowd and traffic control to the medical unit and patient decontamination area. Medical units can request through the MCC SF support to assist with area security and crowd and vehicle control. However, SF personnel will likely be engaged elsewhere during a CBRN terrorist event on the installation. The pool of trained manpower/security team personnel must be large enough to field a team while accounting for leave, TDYs, and the possibility that some personnel are not available or cannot be reached for immediate response. Training requirements are outlined in AFI 41-106. Medical units should train a number of manpower personnel in setting up the patient decontamination shelter to augment or assist patient decontamination members as needed.

14.5. Integration. Medical unit response planning must include integration and coordination with other medical unit MCRP teams and their respective 886 AS. This integration and coordination must also correlate with the installation IEMP 10-2 to ensure a seamless response with other installation agencies. Follow-on response capabilities from local, state, tribal, and federal agencies must be identified, coordinated, and exercised before a CBRN event.

14.5.1. Horizontal Integration. The manpower/security team will work with the SFS if the SFS responds to the medical unit for support. Normally, there is no other direct integration with other installation response organizations. The manpower/security team is directly integrated into the medical unit's response organization as delineated in the MCRP. All interaction with other response organizations must be coordinated through the MCC.

14.5.2. Vertical Integration. All communications and requests for assistance or information by or to higher echelon or supporting Air Force or DOD commands, as well as local, state, tribal, or federal follow-on resources, should be coordinated through the EOC by the MCC. The manpower/security team should not communicate directly with outside agencies without prior approval from the MCC.

14.5.3. Additional Resources. The acquisition of additional services, equipment, and supplies during a CBRN event may be necessary if there is a depletion of AS 886M assets. If this occurs, POS and installation WRM caches (upon approval) should be used to support the medical response. Additional personnel may be necessary to support the manpower/security team. These additional resources may be requested through the MCC when it appears that the medical unit security effort is overwhelmed.

14.6. Equipment and Supplies. The manpower/security team uses the materials on AS 886M. AS 886M assets may be packaged or configured to meet local needs. AS 886M includes the following sub-assemblages:

- Sub Assemblage I1–Infrastructure
- Sub Assemblage PT–Patient Care/Treatment
- Sub Assemblage S1–Safety

14.6.1. Pre-Positioning. AS 886M equipment and supplies are pre-positioned as determined by the team chief for optimal access in a disaster situation.

14.6.2. PPE. AS 886M provides personal PPE for use by the manpower/security teams. PPE includes a loose-fitting (hooded) PAPR, DTAPS, chemical boots, chemical resistant glove liner, and gloves. Inspections of the hood and PAPR, to include flow check, are required every 30 days to maintain mission ready status, and should be documented on AF Form 1071, Inspection/Maintenance Record. **Note:** The PAPRs should be pre-assembled and in ready-to-go status, including monthly flow checks, to ensure they are operational. PAPR batteries should be kept charged at all times.

Chapter 15

PUBLIC HEALTH

15.1. Introduction. This chapter outlines the response procedures for the public health team (PHT) before, during, and after a CBRN-related biological event. These procedures exist to limit casualties and sustain mission capability at Air Force installations. This response plan applies to all biological attacks against Air Force installations. PHT response also applies during operationally significant, naturally occurring, emerging infectious disease outbreaks and pandemics.

15.1.1. PHT Overview. A CBRN incident will result in a surge in the requirement for PHT support activities at the scene of the event, at the installation's medical unit, and other locations on the installation (e.g., shelters and food-serving facilities). Demands for PH response will depend on the type and magnitude of the incident, as well as the capabilities of the medical unit and installation.

15.1.1.1. Each PHT must maintain, in ready status, the equipment and supplies required for initial response to a biological event, including specialized detection and surveillance equipment for investigating food-borne illness outbreaks, performing vector-borne disease surveillance, and identifying suspected biological agents. The PHT response is supported by AS 886P.

15.1.1.2. PHT planning must include integration and coordination with local and state response agencies, as appropriate. The response to any emergency or disaster must be a coordinated community effort.

15.1.2. Assumptions. PHT response plans are based on the following assumptions:

15.1.2.1. A disease outbreak or suspected illness may initially manifest itself at the medical facility with patients showing unexpected symptoms or a higher than average number of patients seeking medical assistance.

15.1.2.2. Due to the varying incubation periods of biological organisms, exposure may precede the onset of illness by days or weeks, depending on the causative agent. Biological toxins are an exception because symptoms will generally manifest within hours of exposure.

15.1.2.3. Initially, an infectious disease outbreak caused by enemy or terrorist attack may be indistinguishable from a naturally occurring disease outbreak. Several days may pass before medical authorities suspect a deliberate cause.

15.1.2.4. Because of the rapid progression to illness and potential for dissemination of some biological agents, it may not be practical to wait for complete information. The wing commander, PHEO, public health, and medical personnel may have to take action based upon incomplete information.

15.1.2.4.1. It may be necessary to initiate a response based on the recognition of high-risk syndromes. Initial response should provide protection against all potential modes of transmission until the causative mode is identified.

15.1.2.4.2. Assume all disease outbreaks are contagious until the causative agent and mode of transmission are identified.

15.1.2.5. Medical interventions (vaccination or prophylaxis) and limiting exposure (social distancing and protection) are considered most effective if implemented before or at the onset of the event.

15.1.2.6. To properly respond to a CBRN threat or emergency, PH must complete essential preparedness activities.

15.1.2.6.1. Disease outbreaks will require an integrated response from multiple organizations across the base as well as local, state, federal, international, and host nation authorities. Establish close working relationships and open communication with the following:

- State, regional, and tribal public health agencies
- Academic institutions
- EMS
- LEPCs
- Emergency management agencies (EMAs)
- Law enforcement

15.1.2.6.2. Responses to disease outbreaks suspected of being deliberate in origin require special law enforcement procedures (e.g., establishing and maintaining a chain of custody for all clinical or environmental samples submitted and transported for laboratory testing).

15.1.2.6.3. PHT members are expected to participate in hazard and risk assessments for the local area.

15.1.3. **Background.** Acts of bioterrorism and emerging infectious diseases have become more prevalent across Air Force installations worldwide. With the increased frequency of deployments and movement of troops within and outside the United States, the introduction and spread of infectious disease is more likely. Increased engagement in efforts to improve disease surveillance and outbreak response will help detect new or unusual diseases and improve response to health emergencies, which include naturally occurring and intentionally caused outbreaks.

15.1.3.1. A bioterrorism attack is the deliberate release of viruses, bacteria, or other germs (agents) to cause illness or death in people, animals, or plants. These agents are typically found in nature, but they may be altered to increase virulence, pathogenicity, or

antibiotic resistance. Biological agents can be spread through the air, water, or ingested food.

15.1.3.2. Bioterrorism agents are classified according to public health risk. Category A agents pose the greatest risk to public health and may result in mass casualties. They require surveillance, rapid detection, and stockpiling of medications. Currently, the CDC recognizes six Category A agents. Category B and C agents have the potential to cause illness but pose a lower medical and public health impact. http://www.bt.cdc.gov/agent/agentlist-category.asp#a

15.1.3.3. Terrorists may use biological agents because they can be extremely difficult to detect and do not cause illness for several hours to several days. Bioterrorism may occur as covert incidents, in which persons are unknowingly exposed and an outbreak is suspected only upon recognition of unusual disease clusters or symptoms. Bioterrorism may also occur as announced events to cause panic in the population, in which persons are warned that an exposure has occurred. In the event of a terrorism incident, in particular covert terrorist attacks, early detection and control of its consequences may be the observant physician, veterinarian, laboratory technician, public health technician or other medical professional who recognizes an unusual illness or cluster of illnesses or increases in requests for medical services or a specific diagnosis.

15.1.3.4. In an age of expanding air travel and international trade, infectious microbes are transported across borders every day. They are carried by infected people, animals, and insects and contained within commercial shipments of contaminated food. Old diseases such as malaria, measles, and foodborne illnesses are endemic in many parts of the globe, and new diseases such as acquired immunodeficiency syndrome as well as new forms of old diseases such as multidrug-resistant tuberculosis (TB) can emerge in one region and spread throughout the world. Unforeseen disease problems can be expected. Recent examples include vancomycin-resistant infections of *Staphylococcus aureus*, avian influenza, and Nipah virus encephalitis. Left unchecked, today's emerging diseases could become the endemic diseases of tomorrow.

15.1.3.5. A severe pandemic in a fully susceptible population, such as the 1918 pandemic, or one of even greater severity with limited quantities of antiviral medications and pre-pandemic vaccine represents a worst-case scenario. A severe pandemic could overwhelm the healthcare system and challenge the ability to complete the Air Force mission. Conventional strategy for pandemic influenza is to limit the spread of a pandemic; mitigate disease, suffering and death; and sustain infrastructure and lessen the impact on the mission. Without mitigating interventions, even a less severe pandemic would likely result in dramatic increases in the number of hospitalizations and deaths.

15.1.3.6. The primary responses for combating influenza are vaccination, treatment of infected individuals and prophylaxis of exposed individuals with influenza antiviral medications, and implementation of infection control and social distancing measures. The single most effective intervention is vaccination. However, it is highly unlikely that a well-matched vaccine will be available when a pandemic begins unless a vaccine with

broad cross-protection is developed. With current vaccine technology, pandemic strain vaccine would not be available for at least four to six months after the start of a pandemic. Once an effective pandemic vaccine is developed, it is likely that amounts will be limited due to the production process and will not be sufficient to cover the entire population. The public health community must be prepared to face the first wave of the next pandemic without vaccine—the best countermeasure—and potentially without sufficient quantities of influenza antiviral medications. It is not known if influenza antiviral medications will be effective against a future pandemic strain. The actual effectiveness of individual infection control measures (e.g., cough etiquette, hand hygiene) and the role of surgical masks or respirators in preventing the transmission of influenza are currently unknown. However, cough etiquette and hand hygiene is universally recommended, and the use of surgical masks and respirators may be appropriate in certain settings.

15.2. Capabilities and Limitations. The PHT provides the MTF with the capability to detect and respond to a biological event. PH provides commanders with medical intelligence, surveillance, and disease control measures. The PHT is trained to perform the following functions:

15.2.1. Consultation. Brief commanders and personnel on pertinent medical intelligence considerations and countermeasures. Include information on endemic disease threats, outbreaks, and CBRN warfare agents and their associated health effects.

15.2.2. Risk Assessment and Analysis. Monitor, investigate, and report syndromes, illnesses, and other conditions of military medical importance. Report all suspicious disease rates, types, or trends that suggest a public health emergency to appropriate authorities.

15.2.2.1. Prepare appropriate risk communication messages as required.

15.2.2.2. Investigate communicable/infectious disease outbreaks (or clusters) to determine the cause and prevent further cases or future outbreaks. Perform epidemiological analyses to include verification on the diagnosis and outbreak, case definition, descriptive epidemiology, identification of exposure sources and risk factors, statistical comparisons, and implementation of prevention and control measures.

15.2.2.3. Conduct epidemiological analysis of disease data and make recommendations to the PHEO and MTF commander on prevention and control measures. Coordinate prevention activities with pharmacy, immunization, and all other necessary personnel.

15.2.2.4. Provide support to the PHEO during public health emergencies and installation contingency responses. Ensure the PHEO is notified promptly about cases or disease rates that suggest a public health emergency.

15.2.2.5. Investigate all public health emergency cases for sources of infection/exposure.

15.2.2.6. Assess health risks and provide recommendations on appropriate disease containment measures associated with suspected exposure (e.g., PPE, quarantine, isolation).

15.2.2.7. Report investigation results with recommended preventive measures to the PHEO, squadron commander, MDG commander, wing commander, MAJCOM/SG, PHO, USAFSAM, and local and state health departments as required.

15.2.3. Disease Surveillance, Prevention, Control, and Reporting. Perform zoonotic and vector-borne disease surveillance, prevention, control, and reporting.

15.2.3.1. Conduct surveillance activities with appropriate vector trapping and develop a local vector profile assessment.

15.2.3.2. Maintain communication with providers to ensure prompt reporting of vector-borne disease. Communicate with state and local public health authorities to identify potential zoonotic and vector-borne outbreaks and disease vectors of medical importance in the local area.

15.2.3.3. Collect routine vector samples as needed to maintain a local vector profile and package and ship specimens to the appropriate entomology laboratory.

15.2.3.4. In response to a suspected or confirmed vector-borne outbreak, collect vector samples in support of public health response activities. Coordinate with the lab team (886I) for available JBAIDS vector-borne assays or package and ship specimens to the appropriate entomology laboratory.

15.2.3.5. Communicate vector surveillance results with CE pest management and assess control measures implemented by CE pest management.

15.2.4. Response to Food-Borne Illness Outbreaks. During a food-borne illness outbreak, determine the possible source of the infection and report findings.

15.2.4.1. Interview patients to determine possible sources of infection. Inspect facilities to determine possible environmental sources of infection.

15.2.4.2. Collect food samples and package and ship specimens to the appropriate testing laboratory. Coordinate as necessary with the lab team (886I) for available JBAIDS food-borne assays.

15.2.4.3. Inspect all potentially contaminated food for wholesomeness and make appropriate recommendations on priority use, proper decontamination procedures, and fitness for human consumption. Accomplish food decontamination IAW FM 4-02.7/MCRP 4-11.1F/NTTP 4-02.7/AFTTP 3-42.3, Appendix J.

15.2.4.4. Train and provide consultative services to food facility managers concerning wholesomeness condition, packaging integrity, source approval, food security, sanitary condition of delivery vehicles, and proper storage of foods at delivery to ensure suitability for intended purposes.

15.2.4.5. Report investigation results with recommended preventive measures to the PHEO, squadron commander, MDG commander, wing commander, MAJCOM/SG, PHO, USAFSAM, and local and state health departments as required.

15.3. Concept of Operations. The PHT will be activated upon notification of a suspected intentional biological incident by the MCC or local or state health department, as required by HHQ guidance or as required by pertinent intelligence data relating to local health threats and endemic diseases. Each clinic has the potential to be the first location to recognize and initiate a response to a bioterrorism-related or natural disease outbreak. In this case, the MCC will activate the PHT after notification from local MTF providers of a suspected biological incident or natural infectious disease outbreak. The team can respond off-installation only at the discretion of the installation commander, HHQ, or IAW local MAAs, MOAs, or MOUs.

15.3.1. Outbreak Detection. Detection or identification of a food-borne illness, communicable disease, or vector-borne disease can occur through any of the following avenues.

15.3.1.1. Routine public health surveillance. Using routine surveillance data, PHTs should know how many illnesses to expect in a given time period. If a larger number of people than expected appear to have the same illness with something in common to explain why they became ill, this may be considered an outbreak.

15.3.1.2. Informal reports from individuals directly to the PHT.

15.3.1.3. Formal reports from healthcare providers when they suspect conditions on the tri-service or state reportable condition list.

15.3.1.4. Laboratory confirmation from a submitted patient sample.

15.3.1.5. Direct report from a group about the intentional contamination of a food supply.

15.3.2. Food-Borne Illness Investigations. PHTs responding to an unintentional food-borne illness outbreak should conduct an environmental assessment of all involved food facilities. At a minimum, the assessment should consist of interviews with individuals who prepared the food (to find out the ingredients used, the steps followed in preparing the food, and the temperatures used to prepare and hold the food), assessment of the health practices and training of the workers, cleanliness of the kitchen, health status of the workers at the time the exposures took place, and past inspection reports to see if there has been a history of problems. Local or state environmental health specialists should be contacted for any off-base food facilities involved in an outbreak investigation.

15.3.2.1. The PHT should conduct investigations using the food-borne illness testing equipment in AS 886P.

15.3.2.2. During unintentional food-borne illness outbreaks, the PHT should collect samples of any epidemiologically implicated food items.

15.3.2.2.1. If available, submit samples of the implicated food items that were not prepared or served (same brand/lot number, etc., as the implicated items consumed).

15.3.2.2.2. Before collecting and submitting samples, contact the local laboratory response team or DOD Veterinary Food Analysis and Diagnostic Laboratory for instructions on the proper collection, holding, and shipping procedures.

15.3.2.2.3. Review the DOD Veterinary Food Analysis and Diagnostic Laboratory *Lab Sample Submission Guide* to determine chain of custody requirements. This guide is available at the following URL: http://www.vetlab.army.mil/documents/fsts_docs.html

15.3.2.3. In general, during intentional biological incidents, samples suspected of containing a BTA should be coordinated with the FBI through the AFOSI.

15.3.2.3.1. Review the DOD Veterinary Food Analysis and Diagnostic Laboratory *Lab Sample Submission Guide* to ensure proper procedures are followed when collecting and submitting samples.

15.3.2.3.2. If the PHT collects samples involved in a criminal investigation, PHT must follow strict chain of custody procedures when collecting implicated samples.

15.3.2.4. Sample analysis is the responsibility of the receiving laboratory. However, the PHT may conduct basic sample analysis using the high microbial load (HML) kit. The HML kit can rapidly detect disease-causing organisms. The presence of high levels of unknown bacterial contaminants can signify spoilage or contamination of a suspected food. The HML kit will not detect biological toxins, chemical agents, pathogenic protozoa, or viruses.

15.3.3. Communicable Disease Outbreaks. The PHT responds to a communicable disease outbreak using the epidemiology assets in AS 886P. Response procedures during a natural or intentional biological incident will vary depending on the capability of each MTF. Most small ambulatory facilities will notify a local community emergency network and transfer affected patients to appropriate facilities. Larger MTFs may activate isolation facilities. The PHT chief should refer to the local MCRP/DCP for specific guidance on response procedures for a natural or intentional communicable illness outbreak. All facilities should consider the following response actions during a communicable disease outbreak:

15.3.3.1. Triage and isolation procedures.

15.3.3.2 Healthcare worker PPE.

15.3.3.3. Collection and submission of confirmatory samples as required.

15.3.3.4. Cleaning, disinfection, and sterilization of equipment and the environment. (See the MTF's infection control OI.)

15.3.3.5. Patient transport requirements. (See the installation's DCP.)

15.3.3.6. Discharge management.

15.3.3.7. Post-mortem care. (See the installation's DCP.)

15.3.3.8. Pre-exposure prophylaxis and post-exposure immunization.

15.3.3.9. Patient, visitor, and public information (in conjunction with the wing and MDG PAO).

15.3.3.10. Contact investigation.

15.3.3.11. Rapid identification and isolation of affected patients. (See the installation's DCP.)

15.3.3.12. Interaction with local community healthcare facilities and health departments. (See any applicable MAAs, MOAs, or MOUs).

15.3.4. Vector-Borne Disease Outbreaks. PHT members responding to a vector-borne disease outbreak should use all required PPE. AS 886P includes equipment and supplies for vector-borne response.

15.3.4.1. During unintentional vector-borne disease outbreaks, PHT should collect, prepare, and submit samples using Air Force standards or IAW specific instructions from HHQ. Guidance for sample collection, preparation, and submission procedures is available online on the DOD Worldwide Influenza Surveillance Program website at the following URL: https://gumbo2.wpafb.af.mil/epi-consult/

15.3.4.2. During intentional biological incidents, samples suspected of containing a BTA should be coordinated with the FBI through the AFOSI. Strict chain of custody procedures must be followed when submitting implicated vectors.

15.3.4.3. In general, PHT members are not responsible for vector identification. Vector identification is accomplished through USAFSAM's entomology department. Depending on circumstances, PHT members may be required to perform local vector identification during a vector-borne outbreak. Consult with the USAFSAM entomology department for guidance.

15.3.5. General Response Guidelines. PHT members should perform the following actions during an actual or suspected outbreak:

15.3.5.1. As the situation dictates, increase active surveillance for the disease of concern. Report results to the MCC.

15.3.5.2. Collect necessary samples and submit to appropriate testing laboratories.

15.3.5.3. Perform all necessary contact investigations to stop the spread of disease.

15.3.5.4. Advise the MCC of immediate health hazards and protective measures to implement.

15.3.5.5. Integrate efforts with local MCRP response teams, as well as federal, state, and local responders.

15.3.5.6. Don all required PPE.

15.3.6. Biological Incidents with Prior Warning. Upon receipt of a warning, activate the PHT and start pre-event actions IAW the local MCRP. Pre-event actions include the following:

15.3.6.1. Establish communication with the TWG, MCC, PHEO, infection control officer, laboratory response team, pharmacy team, immunizations personnel, clinical team, and other MCRP teams as necessary.

15.3.6.2. Confirm communication with the local or state health department, local emergency department, FBI, HHQ, USAFSAM, and other agencies as necessary.

15.3.6.3. Verify completion of active, passive, and syndromic surveillance activities. As required, enhance zoonotic and vector-borne disease surveillance activities, and initiate appropriate sampling of food products.

15.3.6.4. Educate healthcare providers on typical clinical features of the illness and reporting procedures.

15.3.6.5. Educate the base population on prevention measures, clinical features of the illness, and procedures to follow in case of suspected illness.

15.3.6.6. Review the installation’s DCP.

15.3.6.7. As applicable, review local MAAs, MOAs, or MOUs to verify agreements with the local medical community regarding patient handling.

15.3.6.8. Begin collecting and analyzing data as it becomes available through established health surveillance systems and laboratories, and evaluate any real-time sampling data. Communicate results to appropriate personnel in a timely manner through established operations plans, procedures, or local guidelines.

15.3.7. Biological Incidents without Prior Warning. For biological incidents that occur without warning, the PHT should accomplish the same pre-event actions as an incident with warning and do the following:

15.3.7.1. Compare projected requirements with available resources, and report deficiencies to the MCC.

15.3.7.2. Deliver support as directed by the MCC.

15.4. Manning. The PHT consists of all fully qualified PHOs (43HX0) and public health technicians (4EX0) assigned to the MTF's public health response team. As the situation or FPCON dictates, ensure at least one PHT member is available for immediate recall. This individual should be a fully qualified and trained 5-level PH technician or higher.

15.4.1. Augmentation. Additional manning support should be requested through the MCC IAW local policy (e.g. MCRP).

15.4.2. PHT Chief Responsibilities. The PHT chief is responsible for the following functions:

15.4.2.1. Ensure PHT orientation and training of all assigned PHT personnel, including augmentees.

15.4.2.2. Ensure AS 886P equipment and supply inventories are maintained.

15.4.2.3. Train and exercise on AS 886P equipment at least annually. AS 886P equipment training supports the annual DCP exercise required by AFI 41-106.

15.4.2.3.1. The disease-containment strategy portion of the DCP exercise must test and evaluate the MTF's ability to implement disease containment strategies in support of mission sustainment and patient care requirements.

15.4.2.3.2. The exercise must test restriction of movement measures (e.g. social distancing, isolation, or quarantine), conducting epidemiological investigations, and declaring a public health emergency.

15.4.2.4. Participate in the planning, design, and conduct of exercises to evaluate public health preparedness and response.

15.4.2.5. Participate in after-action reviews of exercises and actual incidents to identify areas that require revision, enhancement, or training, and take appropriate follow-up action.

15.4.2.6. Ensure augmentees receive the required oversight and JIT training necessary for safe completion of their assigned public health duties IAW local policy (e.g. MCRP).

15.5. Integration. PHT response must include integration and coordination with other organizations that have initial and follow-on response requirements, including local, state, and federal agencies. PHT planning should be coordinated with the following medical response teams for biological incident response:

15.5.1. Pharmaeutical Team Interaction. The pharmaceutical team ensures an adequate supply of the pharmaceutical supplies needed to support a biological incident. During periods of widespread disease transmission, the pharmaceutical team may be required to establish a point of dispensing for mass distribution of immunizations and medications. PH should provide briefings as required. AS 886P provides equipment to support the PHT during mass prophylaxis and point of distribution operations.

15.5.2. Clinical Team Interaction. The clinical team is responsible for the treatment of biological casualties. The clinical team chief also manages AS 886L and coordinates the organization of supplies for optimum treatment of biological casualties. The PHT provides any required guidance on recognizing biological casualties, provides appropriate personal protective measures for medical personnel, and performs contact investigations to limit the spread of infection.

15.5.3. BEE Team Interaction. The BEE team identifies, analyzes, and recommends control measures during a CBRN incident. PHT coordinates with the BEE team chief to provide collaborative expertise to installation commanders on the effects of biological agents.

15.5.4. LBDT Interaction. The LBDT provides rapid pathogen identification during a biological incident. PHT coordinates with the LBDT on sample collection procedures. Once a biological agent is identified, the LBDT will notify the PHT.

15.5.5. Interaction with Other Medical CBRN Response Teams. The PHT coordinates with other medical CRBN response teams as necessary. The PHT must exercise the established disease containment strategy in conjunction with other MTF MC-CBRN teams IAW AFI 41-106.

15.5.6. Interaction with Civilian Response Resources. A CBRN event that occurs on an installation may require assistance from off-installation responders. The PHT must understand what local resources exist, their capabilities, and how and where to interface with civilian counterparts. Each installation should maintain MAAs, MOAs, or MOUs that outline military and civilian responsibilities during a CBRN incident. Examples of local civilian response resources include: local and state health departments, HAZMAT response teams, emergency planners, local inpatient hospitals, and acute care facilities.

15.5.6.1. Imminently serious conditions resulting from an attack on civilian assets may require immediate action by the military to save lives, prevent human suffering, or mitigate significant property damage. Installation commanders may direct military resources to respond to off-installation incidents in such circumstances.

15.5.6.2. A CBRN event that occurs on an installation may require assistance from off-installation responders due to limited resources available at some MTFs. The PHT must be familiar with local MAAs, MOAs, or MOUs to effectively interact with civilian counterparts.

15.5.6.3. The PHT serves as the primary liaison with local, state, federal, territorial, and host nation public health officials. Maintain close contact and coordination with health officials who track communicable diseases in the local community and who manage and respond to public health emergencies. **Note:** The PHT will facilitate the PHEO's role of communicating with civilian agency health officials during a public health emergency.

15.5.7. Horizontal Integration. PHT members must be familiar with the installation's IEMP 10-2 and DCP guidance on planning for and responding to biological incidents. The PHT should plan for integrated response with other installation and off-installation response teams, as appropriate.

15.5.7.1. PHO should coordinate with the PHEO and the installation's TWG to identify preventive measures and assess local threats and current information on vaccines, antidotes, and possible disease surveillance trends.

15.5.7.2. The PHT and the PHEO provide guidance to base first responders on personal protective measures to take during a biological incident. See the installation's DCP for more information.

15.5.7.3. The PHT and the PHEO should coordinate with the wing's PA office through the MCC to provide informational messages to the general public.

15.5.7.4. PHT should notify CE entomology when control measures are recommended for medically important vectors.

15.5.7.5. PHT interacts with other installation agencies as directed by the installation's DCP.

15.5.8. Vertical Integration. All communications and requests for assistance or information by or to higher echelon or supporting Air Force or DOD commands, as well as local, state, tribal, or federal follow-on resources, should be coordinated through appropriate channels (MCC, aerospace medicine squadron [AMDS] commander, MDG commander).

15.6. Equipment and Supplies. AS 886P is based on standardized equipment and quantities of supplies deemed necessary to provide a robust and all-encompassing biological agent response

capability to the AFMS. Equipment and supplies may be pre-positioned, repackaged, or configured to meet local needs as determined by the PHT chief for optimal use at the installation. AS 886P assets include the following sub-assemblages:

- Sub Assemblage AA–Admin
- Sub Assemblage EP–Epidemiology
- Sub Assemblage FB–Food Borne Illness
- Sub Assemblage VB–Vector-borne
- Sub Assemblage S1–Safety

Chapter 16

AIR NATIONAL GUARD (ANG)

16.1. Introduction. Medical units at Air Force active duty installations are responsible for developing, managing, and sustaining critical capabilities to provide MC-CBRN response. These processes and procedures, allowance standards, and assigned teams are defined in the MCRP IAW AFI 41-106. The MC-CBRN equipment packages have been adapted for ANG use to accommodate the smaller installation footprint, smaller number of full-time medical personnel, and the capabilities of ANG medical groups.

16.2. Purpose. The MC-CBRN program is designed to be operational within 20 minutes of arrival at the designated staging area of a CBRN event and to fill the gap between the installation's initial response capability and the availability of outside assistance. Sole dependence on CSTs or the CBRNE Enhanced Response Force Package (CERFP) places the wing at risk because these teams may be committed elsewhere or delayed in their response as long as 6-12 hours after an event. This program is not specifically designed to support the civilian community. CSTs and the CERFP fulfill that role. However, MC-CBRN assets may be deployed within CONUS when requested under the auspices of DSCA with ANG commander's approval.

16.3. MC-CBRN Response. A major accident, natural disaster, HAZMAT spill, TIC/TIM or terrorist/intentional use of CBRN, can occur at anytime without notice. Any incident should be assessed for potential involvement of CBRN agents until confirmed otherwise. The ability to respond appropriately is critical in mitigating the consequences of an incident. In the event of a mass casualty incident, outside resources may be unavailable due to FPCON changes, response distance, or because an area outside the unit has also been impacted. Community assets may also be overwhelmed. ANG units must be able to execute the initial response and manage 100 casualties for up to 24 hours after an incident. ANG units must be prepared to provide decontamination, assist with triage, and, to the extent possible, assist in preparing patients for emergency transportation to civilian medical care facilities. ANG units should ensure that evidence is preserved and should provide support for detection, identification, and hazard evaluation.

16.3.1. Response Teams. ANG wings not co-located with an active duty installation must establish the following capabilities: patient decontamination (AS 976A), triage (AS 976K), and BE (AS 976H). ANG bases co-located on an active duty or AFRC base depend on the host to provide the full response and, therefore, are not equipped. The ANG teams' primary role is installation consequence management. However, ANG teams may be tasked by the state for off-installation response during declared emergencies.

16.3.1.1. The response teams should be composed of full-time personnel to include Active Guard and Reserve (AGR) and state technicians.

16.3.1.2. The patient decontamination team is led by one MDG member who functions as the team chief. The remaining 11 team members are drawn from any non-medical AFSC provided by other installation organizations.

16.3.1.3. The triage capability is a small-footprint package viewed as a Self-Aid Buddy Care Plus package. This capability is managed by any 4XXXX not assigned to 976A, 976H, or EOC responsibilities. This individual is not required to be a trained emergency medical technician (EMT). While designed for use by physicians, nurses, EMT-trained technicians, and fire department paramedics, the 976K capability can be employed by any wing personnel with minimal medical training.

16.3.1.4. The BEE team is comprised of full-time BE technicians.

16.3.2. Asset Availability. AS 976 assets are available for any type of real-world response or exercise as determined by the MDG commander. The National Guard Bureau (NGB) authorizes the use of supplies and equipment during NGB/SG required exercises and Federal Emergency Management Agency (FEMA)/Regional DSCA exercises. ANG teams may require the ability to position supplies, equipment, and personnel at a pre-designated assembly point, the MDG facility, elsewhere on the installation, or at a local community medical facility.

16.3.3. Unit Commanders. Unit commanders should ensure that teams are trained, organized, equipped, and sustained to execute an appropriate response. Unit commanders are also responsible for approving support agreements with civilian and military agencies outside the unit to ensure mission capability.

16.4. Logistics. The 976 allowance standards are customer-owned assemblages and will be managed IAW AFI 41-209. Medical logistics will procure, receive, and issue all required materials and assist team chiefs in conducting inventories of the allowance standards. Supplies should be inventoried at least annually and within 30 days of use in a real-world or exercise scenario. NGB/SG is available to assist in identifying sources of equipment and supplies and for widespread changes to the allowance standards and will execute purchases centrally.

16.4.1. Supplies and Equipment. Supplies should be stored in a location that will best support an immediate response and should be protected from the elements. This location may vary from installation-to-installation. PPE must be stored within the MDG or other location where disaster teams assemble. Do not co-mingle supplies with WRM inventories.

16.4.2. Procurement and Sustainment. For widespread purchases affecting multiple units, NGB/SG will centrally manage and execute funding on behalf of each installation. Units should identify recurring needs to sustain equipment sets to NGB/SGAXS, which will prompt distribution of funding from NGB/SG to the unit for local expenditure.

16.5. Program Funding. NGB/SG participates in the ANG and Air Force Installation Support Panel (ISP) to advocate for funding to cover equipment, supplies, exercises, and training for the MC-CBRN program. Funding is programmed through PE 58036F, MC-CBRN Program. This

PE is unique to the ANG and parallels the active duty PE 28036F. Note that this PE is different from the ANG Medical O&M PE 58221F in order to distinctly project requirements and monitor expenditures for this installation-level support program. NGB/SGAX serves as the PEM for PE 58036F.

16.6. Patient Decontamination Team (976A). The patient decontamination team is designed to provide patient decontamination capability during the first few hours following a CBRN incident, peacetime accident, or natural disaster. The ANG patient decontamination team is a non-deployable, organic medical asset. This capability should not be confused with UTC FFGLB, Expeditionary Medical Decontamination Team, FFGLA, Expeditionary Medical Decontamination Equipment, or installation HAZMAT teams. The team's goals are to maintain mission capability and save lives.

16.6.1. Assumptions. The patient decontamination team operates on the assumption that gross contamination will be left at the scene and only minimal contamination will arrive at the patient decontamination site.

16.6.1.1. Self-reporters are usually in the minimal triage category; however, people at the scene may use vehicles of opportunity to transport delayed or immediate triage category victims, especially if a child is involved.

16.6.1.2. Initial response is considered the first 24 hours after a CBRN event has occurred or has been detected and includes crisis and consequence management. It is assumed that after the initial 24 hours, support from additional federal, state, and local assets should arrive on-scene.

16.6.1.3. The patient decontamination process should be viewed as a qualitative process rather than a quantitative one. All traces of CBRN contaminants may not be removed in this process. The objective is to remove or neutralize the bulk of contaminants, thus reducing further agent exposures.

16.6.1.4. The patient decontamination team has only minimal CBRN agent detection capability. They perform decontamination procedures based on patient symptoms, input from the IC, and their best judgment.

16.6.2. Capabilities and Limitations. A fully manned (12 personnel), well-trained patient decontamination team can decontaminate 6-10 litter patients and 10-15 ambulatory patients per hour for a typical scenario. The time to decontaminate will vary depending on the type of contaminant and methods required to accomplish decontamination. When deployed by well-trained, fully manned team, the patient decontamination system can be operational within 20 minutes of arrival at the designated decontamination staging area. **Note:** Decontamination operations can be started before the system is fully erected.

16.6.2.1. Authorization levels or in-stock quantities for AS 976A may be insufficient to sustain immediate response (defined as the first 24-hours) for some types of CBRN incidents. Where valid, credible threats indicate insufficient stock of equipment and

supplies to respond, the patient decontamination team chief will inform the IC and ESF #8 and make recommendations for the procurement of additional equipment and supplies to sustain operations.

16.6.2.2. CBRN agents may not be completely removed or neutralized during the decontamination process. Many CBRN agents, once inhaled or ingested, cannot be neutralized internally without comprehensive medical intervention, if at all.

16.6.2.3. Containing run-off from patient decontamination operations is not a primary concern of the EPA. Concern for saving life and limb takes precedence over environmental contamination. Contaminated run-off from the operation is pumped into a bladder and contained until the level of contamination is determined. Based on this determination, the water will be disposed of IAW the IEMP 10-2. An support agreement for removal and disposal of contaminated water should be established as part of the response plan if the ANG unit does not have this capability.

16.6.2.4. Some equipment may not be salvageable after CBRN contaminant exposure. Items absorbent in nature (i.e., cloth, canvas, wood, some paints, and even some silicone-based items) cannot always be decontaminated and will have to be disposed of once contaminated. The team chief must weigh the value of contaminated items and the cost in time and effort before attempting to decontaminate. Coordinate disposal of potentially contaminated materials through the BE and Installation Management Flights IAW AFI 41-201 and AFI 32-7042.

16.6.2.5. Patient decontamination team members wear Level C PPE, comprised of an impermeable protective over garment and PAPR with butyl rubber hood. The PAPR generates noise within the protective hood, making all voice communications challenging. Level C PPE is adequate for personnel performing decontamination away from contamination at the incident scene. As with all CBRN PPE, the potential for heat injury is a serious limiting factor for team members. The patient decontamination team chief must encourage the consumption of fluids and rotate members before they succumb to the effects of heat stress. Consult BE to determine heat stress factors. Patient decontamination team members leaving the area for a break must properly decontaminate themselves and each other before exiting.

16.6.3. Training. Upon purchase and receipt of patient decontamination equipment at the MDG, a cadre of augmentees from the ANGB should receive contractor-provided on-site, hands-on training. The patient decontamination team chief is responsible for ensuring a follow-on team chief and all assigned team members are current in their training and maintain proficiency.

16.6.3.1. New team members, not trained in the initial contractor-provided training, must receive training within 30 days of assignment to the team by the trained patient decontamination cadre.

16.6.3.2. Once each year, patient decontamination team training, exercises, or actual response must include a full setup of the patient decontamination system with water hookup, runoff containment, and patient processing. The patient decontamination team must be trained by installation fire protection personnel on flushing, connecting to, and turning on a hydrant for adequate operating pressure.

16.6.3.3. AFI 10-2501, Attachment 6, outlines Air Force requirements to ensure compliance with OSHA 29CFR1910.120 (q) (6) (ii). Medical personnel who will decontaminate victims must be trained to the HAZWOPER First Responder Operations Level with emphasis on the use of PPE and decontamination procedures.

16.6.3.3.1. Personnel can fulfill annual OSHA training requirements by training with sufficient content and duration to maintain competencies or by objectively demonstrating competency at the First Receiver Operations Level as described in AFI-10-2501.

16.6.3.3.2. Many of the OSHA HAZWOPER required topics are already incorporated into annual MRT classes. Although these classes are usually taught from a wartime CBRN perspective, the same principles apply whether responding to peacetime or wartime CBRN incidents, deployed or in-garrison. The patient decontamination team chief should document this equivalent training to help demonstrate compliance with OSHA's HAZWOPER training requirements.

16.6.3.4. All team members must be enrolled in the RPP managed by BE. Before wearing respirators, team members must complete a medical questionnaire and receive medical approval at a minimum. Contact the BE for more information.

16.6.3.5. Hands-on realistic training is essential for patient decontamination proficiency. Ongoing training should be accomplished as part of routine readiness training and exercises. Training topics should include triage of contaminated casualties, wound and airway management during decontamination, and nerve agent symptoms and antidotes. Team members are assumed to be trained to the self-aid buddy care level only and are not qualified to provide medical care beyond that level.

16.6.3.6. The patient decontamination team chief should make every effort to coordinate with the installation EET chief to incorporate patient decontamination operations into each exercise. The team chief is responsible for developing after-action reports to identify areas for improvement.

16.6.4. Concept of Operations. The patient decontamination team is equipped and staffed to decontaminate victims who self-present without being decontaminated at the scene, as well as those who require further decontamination before medical treatment. This process provides a higher level of decontamination than the on-scene gross decontamination procedures performed by the fire department. AS 976A contains paper agent detectors (M-8 and M-9) only. These papers only detect chemical agents. Personnel must observe signs and

symptoms and look for visible signs of retained contaminants to evaluate the effectiveness of the process. Patients may need to repeat the decontamination process if necessary.

16.6.4.1. The patient decontamination team will activate whenever there is a suspected or confirmed CBRN event to provide adequate set-up time, which is critical to timely patient processing. MCC protocols and checklists should be updated to reflect this policy. Upon activation, the team dons PPE, and the patient decontamination equipment is removed from its storage location and assembled. Security forces (or equivalent) will perform crowd and traffic control during initial setup and throughout decontamination operations.

16.6.4.2. The primary decontamination methods involve clothing removal and skin washing using soap and water. The team will remove all clothing and personal effects from victims, including all identifying information, during the decontamination process. All of these items are placed into individually labeled plastic bags for processing later. This processing may include decontamination and retrieval of valuables and possible assessment by law enforcement agencies for evidence if a criminal act has occurred. Depending on the nature of the incident, this procedure may be performed by outside agencies that arrive later and provide follow-on assistance.

16.6.4.3. The patient decontamination team provides only minimal health care. The patient decontamination team chief conducts triage at the beginning of the decontamination process. Wound and airway management can be performed simultaneously with clothing removal and skin washing. Mutual aid providers should be called upon for triage of victims after decontamination.

16.6.4.4. The team operates at the MDG facility or another pre-designated site. Site selection should take into account the need for the water heater to be located within 100 feet of a fire hydrant. Hose extensions can be purchased for the fire hose to accommodate longer distances.

16.6.4.5. The patient decontamination area must be enclosed by a security perimeter to prevent the possibility of bystander exposure to off-gassing or residual agents. Security forces support should be requested to assist with area security as needed. However, in the event of a CBRN terrorist event on the installation, security forces personnel will likely be fully engaged elsewhere. The IEMP 10-2 should address security measures and consider incorporating alternate personnel resources as available.

16.6.4.6. Communication between team members can become an issue while wearing PPE due to the hood and noise created by the PAPR. A system using hand signals should be practiced during training/exercises. It is also advisable to label each suit or hood with the person’s last name for easier identification.

16.6.4.7. Patient flow through the decontamination process begins with triage in the staging area (warm zone) of the shelter. The triage team provides a quick evaluation of the patient’s condition and establishes decontamination priority. The triage team

provides only quick life-saving measures, such as repositioning the neck to open a patient's airway, applying pressure to stop hemorrhaging, or administering chemical agent antidotes.

16.6.4.8. Personnel must focus on the injuries and the exposure level when determining which patients have an immediate need for decontamination. Medical support for triage will come from field EMTs if available.

16.6.4.9. Following triage, patients remove clothing and valuables and begin processing through the patient decontamination shelter. Personnel will assist ambulatory patients with disrobing. Patient decontamination personnel will cut and remove clothing from litter patients. Contaminated clothing and valuables will be placed in separate plastic bags and labeled. Patient decontamination personnel must be cognizant of the need for evidence preservation. Every effort will be made to return patients' valuables, but clothing will not be returned.

16.6.4.10. After clothing removal, patients proceed through the shelter to the wash and rinse area. Litter patients are placed on a backboard and are manually pushed through the shelter using a conveyor system.

16.6.4.11. The decontamination process ensures that patients become progressively cleaner from entrance to exit. At the end of the process, patients towel dry, and if a chemical agent is involved, their skin is tested with detection paper. Patients are also observed for signs or symptoms that indicate the contaminant is still present.

16.6.4.12. Patients who pass the testing/observation cycle are covered with a blanket. Based on their triage category, patients will be transported to a local medical facility or receive first aid/minimal treatment by medical technicians.

16.6.4.13. When all patients have been decontaminated, the team chief will collaborate with the MCC, BE, and CE regarding which equipment is salvageable and can be decontaminated. Patient decontamination personnel must complete self-decontamination before removing PPE.

16.6.4.14. In keeping with AFIMS and the ICS, the patient decontamination team should not respond to a location unless the IC requests this capability. Every ANG unit is different, and the IEMP 10-2 should address unique needs based on the threats and vulnerabilities identified for each unit.

16.6.5. Manning. Operation of the patient decontamination system requires 12 personnel. Medical units cannot depend on anyone from off-installation to be recalled to staff the patient decontamination team in time to provide any benefit to patients. It is advisable to have as many trained personnel for back-up as possible to ensure coverage for team members who are out on leave, TDY, or are otherwise unavailable for immediate response. ANG manning for the patient decontamination team consists of one MDG member and 11 other personnel from any non-medical AFSC. The MDG member functions as the team chief. Non-medical

personnel are trained in self-aid buddy care only and are not qualified to provide medical care beyond that level. Patient decontamination personnel are trained to the HAZMAT operations level designed for MDG first receivers.

16.6.5.1. Team chiefs are appointed by the MDG commander. Responsibilities are defined in AFI 41-106 and include maintaining the team recall roster and binder, writing and maintaining the team's annex and checklists for the IEMP 10-2, conducting and documenting training, ensuring allowance standards are maintained at full capability, enrolling team members in the RPP (if appropriate), and conducting inventories.

16.6.5.2. FFGK1, Medical Support Personnel, is a traditional ANG medical UTC designed to provide contingency support to the wing. This team is responsible for providing secondary support to the patient decontamination team as defined in the mission capability statement (MISCAP).

16.6.6. Integration. MC-CBRN response must be executed alongside the installation's emergency management team (UTC 4F9WM) and the fire department to support force survivability and critical mission continuation. Significant collaboration with other response teams on and off the installation is required to help maximize all available capabilities. The MC-CBRN program must be fully integrated into the installation's IEMP 10-2 and possible revision of MAAs, MOAs, and MOUs with community resources.

16.6.6.1. Patient decontamination response planning should be coordinated with other medical unit and installation decontamination capabilities, as well as follow-on capabilities from local, state, tribal, and federal agencies. All interactions with other response organizations or work centers within the organizations must be coordinated through the MCC.

16.6.6.2. The patient decontamination team should develop a readiness posture that is linked with the installation's FPCON system. See the installation IEMP or AFI 10-2501 for guidance concerning FPCON. The team leader should be notified immediately of any change in FPCON.

16.6.7. Equipment and Supplies. AS 976A provides the equipment and supplies for the patient decontamination team. It includes a three-lane portable decontamination shelter and associated supplies and equipment. The shelter has one lane with a roller system for litter patients and two lanes for ambulatory patients. The patient decontamination system is equipped to decontaminate 6-10 litter patients and 10-15 ambulatory patients per hour.

16.6.7.1. The patient decontamination package requires access to a fire hydrant and an electrical outlet (110v, 16 amps, GFCI protected) located within 100 feet of the intended setup site. (**Note:** Hose extenders are required to accommodate longer distances.) To connect the water system to a standard American hydrant, a 2.5–1.5 inch adapter and two 50-feet by 1.5-inch hoses are required. The water heater has a built-in check-valve to prevent backflow. However, some states require backflow prevention at the source

(between the hydrant and the fire hoses). Installations that require backflow prevention devices may need to obtain or purchase one locally.

16.6.7.1.1. AFI 32-1066 requires the method of connection to be coordinated with the installation's cross connection and backflow prevention program manager. (Contact BE or the CE water department for information.)

16.6.7.1.2. The intended use of a designated fire hydrant as the patient decontamination water supply should be coordinated with the installation fire department.

16.6.7.1.3. Patient decontamination team training should include instruction on how to flush and connect to a hydrant.

16.6.7.2. AS 976A includes 24 sets of Level C PPE. Responders who use Level C PPE PAPRs do not require respirator fit-testing, but they must be enrolled in the RPP monitored by BE. Responders who use negative pressure air-purifying respirators (APRs) must have fit testing.

16.6.7.3. AS 976A equipment must be stored in its response trailer and must be easily accessible by vehicle. The 976A concept of operations includes a suggested packing plan for the response trailer.

16.7. Triage Capability (976K). In a large-scale event, a surge of patients will quickly overwhelm community healthcare facilities and their associated first response capabilities. To maintain mission capability, the wing may implement FPCON security procedures limiting access to the base. ANG responders may be forced to care for and hold casualties with higher acuity status for longer than anticipated. The ANG triage capability is designed to provide triage and stabilizing care for 100 casualties during the initial response phase of an incident. The scope of care focuses on saving life, limb, and eyesight. AS 976K provides supplies and equipment to triage and stabilize patients in the immediate and delayed triage categories for transport to definitive care facilities and provide first aid for patients in the minimal triage category.

16.7.1. Concept of Operation. The 976K equipment set may be needed at the MDG, on-scene, or at some other pre-determined location on the installation. To accommodate this mobility, AS 976K supplies and equipment must be packed in the response bags provided in the AS and stored with the 976A capability in the NGB/SG-provided response trailer.

16.7.1.1. Initial assessment and management of patients may be initiated by medically trained and qualified personnel or the responding ambulance service. Upon activation, the 976K capability manager must work with the ICS response structure to ensure the adequate distribution of AS assets. Unit planning must include the unification process, development of site medical command and control, and plan for the transfer of patient treatment to an off-installation facility (e.g., community healthcare facility).

16.7.1.2. Field triage and stabilization at the scene of a CBRN incident will most likely be based on presumptive diagnosis and be limited by the availability and skills of the wing personnel and existing resources. Efforts should focus on the effects from contamination as well as the severity of injuries. Triage should not occur within the hot zone.

16.7.2. Manning. The triage capability will be managed by any 4XXXX not already assigned 976A, 976H, or EOC responsibilities. This individual is not required to be a trained EMT. Actual triage operations must be performed by medically trained and qualified personnel.

16.7.3. Activation. 976K is activated upon notification of a suspected CBRN incident by the medical group commander or MCC, as described in the IEMP 10-2.

16.7.4. Equipment and Supplies. The materiel in AS 976K is tailored for triage and stabilization of gross injuries among mass casualties. AS 976K may be repackaged or configured to meet local needs.

16.8. Bioenvironmental Engineering (BEE) Team (976H). The BEE team serves as the MDG and installation's primary resource for conducting CBRN surveillance, health-based risk assessments, and risk communication. The BEE team provides recommendations on proper PPE, stay times, and persistency rates and evaluates gross and patient decontamination methods for effectiveness. The BEE team can perform field industrial hygiene and provide commanders with an HRA. The BEE team is responsible for providing recommendations and input on sheltering procedures and site selection. Demand for the BE capability depends on the magnitude of the incident and the overall mission and capabilities of the MDG and installation.

16.8.1. Concept of Operations. The BEE team will be activated immediately upon notification of a suspected CBRN incident. This activation may come from the MCC, CE flight, or ECC. Depending on available manpower, a member of the BEE team may also be positioned at the EOC or MCC.

16.8.1.1. BEE team support will most likely be required at the incident scene and may be required at other locations in support of the response/recovery effort. ANG BEE teams are trained and equipped to work at the scene in the hot zone.

16.8.1.2. When the BEE team responds to the field as requested by the IC, the team becomes an asset of the IC as soon as they report to the ECP. At this point, all communication from the BEE team will be routed by the IC to the EOC, where the ESF #8 representative assumes responsibility for updating the MCC.

16.8.1.3. The BEE team is trained to effectively employ AS 976H to accomplish the mission. AS 976H provides the equipment and supplies needed to sample and analyze gas, liquid, and solid contaminants for a 24-hour period. It also includes Level A and C PPE. NGB may tailor AS 976H to better meet unit-specific needs. Inventory from the AS will be stored in the BE office to allow for everyday use as well as training.

16.8.1.4. The team will increase monitoring of installation water supplies as needed to ensure potability, safety, and survivability.

16.8.2. Manning. The ANG BEE team will be staffed by one or two full-time BEE technicians (AFSC 4B051 or 4B071) assigned to the installation. If a bioenvironmental engineer is assigned to the unit, the bioenvironmental engineer is assigned to the team as the team chief. Traditional-status bioenvironmental engineers working as full-time CE environmental managers should be considered a potential resource.

16.8.2.1. Team chiefs are appointed by the MDG commander. Responsibilities are defined in AFI 41-106 and include maintaining the team recall roster and binder, writing and maintaining the team's annex and checklists for the MCRP, conducting and documenting training, ensuring the allowance standards are maintained at full capability, enrolling team members in the RPP (if appropriate), and conducting inventories in conjunction with medical logistics.

16.8.2.2. Response to incidents occurring on drill weekends will be augmented by traditional members. The BEE team may also be manned using other augmentees who are trained to the HAZMAT technician level.

16.8.3. Interoperability. Other Wing organizations, such as FES and R& EM flight have HAZMAT response capabilities to provide initial detection at the incident site and define a hazard plot. The BEE team provides follow-on assessments and is trained and equipped to identify and quantify hazards. It is critical for the BEE team and other responders to share information and interact in the form of training and exercises to ensure team interoperability.

Chapter 17

AIR FORCE RESERVE COMMAND (AFRC)

17.1. Introduction. Medical units at Air Force active duty installations are responsible for developing, managing, and sustaining critical capabilities to provide MC-CBRN response. These processes and procedures, allowance standards, and assigned teams must be defined in the IAW AFI 41-106 and IEMP 10-2. AFRC medical units are exempt from the active duty MC-CBRN requirements defined in this AFTTP with the exception of BE capabilities (AS 886H). The 886H equipment package has been adapted for AFRC use to accommodate the smaller installation footprint, smaller number of full-time personnel, and the capabilities of AFRC BE offices. All AFRC bases not co-located with an active duty installation (except Naval Air Station Joint Reserve Base Ft. Worth and Pope Army Air Field) must establish BE capability and maintain AS 886H. AFRC bases co-located on an active duty base typically do not have full-time BE assets. They rely on the host base to provide the full response and are not equipped with AS 886H.

17.1.1. MC-CBRN Program Objective. The MC-CBRN program is designed to be operational within 20 minutes following notification of a CBRN event and to fill the gap between the installation's initial response capability and availability of outside assistance. Sole dependence on outside assistance from local, state, federal, or host nation response resources can place the installation at risk because these resources may be committed elsewhere or delayed in their response as long as 6-12 hours after an event. The MC-CBRN program is not specifically designed to support the civilian community. National Guard CSTs and the CERFP fill this role. However, MC-CBRN assets may be used off-installation when requested under the auspices of DSCA with approval from the installation commander.

17.1.2. MC-CBRN Response Capabilities. A major accident, natural disaster, HAZMAT spill, TIM or terrorist/intentional use of CBRN can occur at anytime without notice. Any incident should be assessed for potential involvement of CBRN agents until confirmed otherwise. The ability to respond appropriately is critical in mitigating the consequences of a CBRN incident. In the event of a mass casualty incident, outside resources may be unavailable due to FPCON changes, response distance, or because an area beyond the unit has also been impacted. Community assets may also be overwhelmed. AFRC units must be capable of executing the initial response for as long as 8 hours following the onset of the incident. Unit commanders are responsible for approving support agreements with military and civilian agencies outside the unit to ensure mission capability.

17.1.2.1. The MC-CBRN assets are a component of the overall installation emergency response plan (IEMP 10-2). Therefore, AS 886H assets are available for any type of real-world or exercise response as determined by the mission support group (MSG) commander. AFRC authorizes the use of supplies and equipment during required exercises and FEMA or regional DSCA exercises.

17.1.2.2. The AFRC BEE team provides support for detection, identification, and hazard evaluation. The team is composed of full-time BEE technicians. BEE personnel are

responsible for maintaining AS 886H. Unit commanders must ensure that teams are trained, organized, equipped, and sustained to execute an appropriate response. AFRC BEE teams may be requested for off-installation response during declared emergencies. However, their primary role is installation consequence management. Support to the community is a secondary responsibility.

17.2. Logistics. AS 886H is a unit-owned assemblage and should be managed IAW AFI 41-209. The active duty medical logistics division may be asked to procure, receive, and issue all required materials and should assist team chiefs in conducting inventories of the allowance standards. AFRC/SG is available to assist in identifying sources of equipment and supplies and for widespread changes to the allowance standards and will execute purchases centrally.

17.2.1. Supplies and Equipment. Supplies and equipment should be stored in a location that will best support an immediate response and should be protected from the elements. This may vary from installation to installation. Do not co-mingle supplies with WRM inventories. The AFRC BEE team may require the ability to position supplies, equipment, and support personnel at a pre-designated assembly point, which could be at the BEE office or elsewhere on the installation. To facilitate access, it might be necessary to store supplies and equipment in a mobile trailer that can be moved where needed. PPE must be stored within the team office or other location where the team assembles. Supplies should be inventoried at least annually and within 60 days of use in a real-world or exercise scenario.

17.2.2. Procurement and Sustainment. For widespread purchases affecting multiple units, AFRC/SG will centrally manage and execute funding on behalf of each installation. Units should identify recurring needs to sustain equipment sets through their active duty medical logistics function and AFRC/SG, which will prompt distribution of funding from AFRC/SG to the unit for local expenditure.

17.3. Program Funding. AFRC/SG participates in the AFRC and Air Force ISP to advocate for funding to cover equipment, supplies, exercises, and training for the MC-CBRN program. Funding is programmed through (yet to be assigned) PE (X) 8036F, MC-CBRN Program. This PE is unique to the AFRC and parallels the active duty PE 28036F and the ANG PE 58036F. Note that this PE is different from the AFRC Ground Medical O&M PE 58211F in order to distinctly project requirements and monitor expenditures for this installation-level support program. AFRC/SGX should) serve as the PEM for PE (X) 8036F.

17.4. Capabilities and Limitations. The BEE team serves as the installation's primary resource for conducting CBRN surveillance, HRA, and risk communication. Demand for the BEE capability depends on the magnitude of the incident and the overall mission and capabilities of the installation. Depending on available manpower, a member of the BEE team may also be positioned at the EOC.

17.4.1. Detection and Assessment. Installation EM and FES have HAZMAT response capabilities to provide initial detection at the incident site and define a hazard plot. The BEE team provides follow-on assessments and has equipment and skill sets for identifying and

quantifying hazards. It is critical for the BEE team and other responsders to share information and interact in the form of training and exercises to ensure team interoperability.

17.4.2. Risk Assessment and Consultation. The BEE team is responsible for recommending proper PPE, stay-times, and persistency rates and evaluating gross and patient decontamination methods for effectiveness. The BEE team can perform field industrial hygiene and provide commanders an HRA.

17.4.3. Site Selection. BEEs provide the installation with recommendations and input on sheltering procedures and site selection.

17.4.4. Water Monitoring. The team will increase monitoring of installation water supplies to ensure potability, safety, and survivability as needed.

17.4.5. Constraints and Limiting Factors. Constraints and limiting factors include the following:

17.4.5.1. Manpower required to create response-ready teams is limited. AFRC BEE teams must rely heavily upon augmentees and cooperation with R& EM flight and FES personnel.

17.4.5.2. Community support must be coordinated using support agreements.

17.4.5.3. AFRC medical units do not possess MTFs. There is no physical setting in which to treat and hold patients awaiting transport to civilian healthcare facilities.

17.4.5.4. The BEE team requires a sufficient means of transportation to respond immediately to the incident scene with all of the required equipment.

17.4.5.5. Storage and the capability to have supplies and equipment in a mobile state of readiness are lacking.

17.5.5.6. Tracking and accountability of patients will be difficult and time consuming, if it can be accomplished at all. These responsibilities should be integrated into the triage process.

17.5. Concept of Operations. The AFRC BEE team and AS 886H provide stand-alone AFRC bases with a threat agent surveillance response capability. BEE team support will most likely be required at the incident scene and may be required at other locations in support of the response effort. A surge for BEE support will occur both during and following a CBRN incident. It is crucial that BEE capabilities are available to provide rapid identification of the hazards and technical support to guide the response effort. AFRC BEE teams have the capability and training to work at the scene in the hot zone. When the BEE team responds to the field at the request of the IC, the team becomes an asset of the IC as soon as they report to the ECP. BEE team communications are routed by the IC to the EOC, where the ESF #8 representative assumes responsibility for updating the ECC.

17.5.1. Activation. The BEE team will be activated immediately upon notification of a suspected CBRN incident. This activation could come from the ECC or FES.

17.5.2. Allowance Standard. The BEE team is trained to effectively employ AS 886H to accomplish the mission. AS 886H provides equipment and supplies necessary to sample and analyze gas, liquid, and solid contaminants for up to an 8 hour period. AS 886H includes Level A and C PPE. AFRC may tailor AS 886H to better meet unit specific needs.

17.6. Manning. The AFRC BEE team is staffed by full-time BEE personnel assigned to the installation. Technician AFSCs should be 43E, 4B051, or 4B071. One or more full-time personnel in AFRC BEE offices are primarily tasked with 4E051 or 4E071 responsibilities, and they should be in the first tier of augmentees assigned to accomplish the mission.

17.6.1. Team Chiefs. Team chiefs are appointed by the MSG commander. Responsibilities are defined in AFI 41-106 and include maintaining the team recall roster and binder, writing and maintaining the team's annex and checklists for the IEMP 10-2, conducting and documenting training, ensuring the allowance standard is maintained at full capability, enrolling team members in the RPP, and conducting inventories in conjunction with medical logistics.

17.6.2. Augmentation. Response to incidents occurring on unit training assembly (UTA) weekends may be augmented by traditional reservist (TR) members (where available). The BEE team may also be manned using other augmentees who are trained to the HAZMAT technician level.

17.7. Integration. MC-CBRN response must be executed alongside the installation's emergency management and fire department response to support force survivability and critical mission continuation. Significant collaboration with other response teams on and off the installation is required to help identify ways that the installation teams can integrate and maximize the capabilities of the limited number of personnel available. The MC-CBRN program must be fully integrated into the installation's IEMP 10-2 and possible revision of MAAs, MOAs, and MOUs with community resources.

Chapter 18

EXERCISE EVALUATION GUIDE (EEG) INSTRUCTIONS

18.1. Exercise Evaluation Guide (EEG) Overview. The EEG template is a comprehensive guide on exercise evaluation, AARs, and improvement plans. EEG tools provide consistent standards and guidelines for tasks, data collection, analysis, and report writing. The EEGs are used in conjunction with the emergency response teams described in this AFTTP. The EEG template allows an evaluator to collect data during an exercise and easily transfer it to an AAR after the exercise. The AF Medical Readiness Community of Practice contains exercise evaluation tools and program information and is available at the following URL: https://cs3.eis.af.mil/sites/OO-SG-AF-83/default.aspx

18.2. Guidance. Homeland Security Presidential Directive (HSPD)-5, *Management of Domestic Incidents;* Presidential Policy Directive (PPD)-8, *National Preparedness*; AFPD 10-25, *Emergency Management*; AFI 41-106; AFI 90-201, *The Air Force Inspection System*; and AFI 10-2501 provide some of the basic foundation, structure, and guidance supporting the objectives of this chapter. This chapter provides guidance to Air Force personnel who design, plan, evaluate and participate in exercises. This chapter supports the HSEEP.

18.3. AS 886 EEGs. The AS 886 EEGs are adapted for use by AFMS MTF exercise evaluators for use by MCRP teams. EET chiefs can approve modifications to add additional tasks to these EEGs. The AS 886 EEGs are available on the Air Force Medical Support Agency Homeland Medical Plans Division Knowledge Exchange at the following URL: https://kx.afms.mil/forceprotection

18.4. Pre-Exercise Activities. The exercise planning and EETs are responsible for developing exercise objectives and scenarios using the EEGs.

18.4.1. Exercise Objectives. EEGs help ensure exercises employ the capabilities-based planning concept and facilitate the conduct and evaluation of exercises. This process also assists in building the Master Scenario Events List (MSEL). The EET chief determines the priority tasks of the exercise. EET members should review of the EEG's tasks and performance measures and develop objectives using the Simple, Measurable, Achievable, Reliable, and Task-Oriented (SMART) model.

- Simple: Related to something identified or particularized.
- Measureable: Consisting of a prescribed action and a quantifiable indicator (i.e., expressed as time, percentage).
- Achievable: To succeed in doing or gaining something usually with effort.
- Reliable: Able to be trusted to be accurate or to provide a correct result.
- Task Oriented: Specific responses that personnel may perform during the exercise.

18.4.2. Installation-Specific Objectives. After identifying the exercise objectives, the exercise planners and evaluation teams should decide which tasks within each EEG should be exercised and evaluated and then customize the EEGs to fit the exercise objectives. Once

a task is identified as part of the EEG, all of the tasks and performance measures associated with the task must appear on the EEG. Customize EEGs to fit installation-specific plans, policies, and procedures. While tasks and performance measures are not normally removed from the selected EEG, additional installation-specific tasks and performance measures may be added.

18.4.3. Preparation. Before an exercise, evaluators must familiarize themselves with the EEGs for the tasks they will observe, including any installation-specific tasks based on the objectives of the exercise. Exercise evaluators should be familiar with the EEG, understand the material covered, and develop a plan for unscheduled events that may take place during the exercise.

18.5. Exercise Evaulation. During an exercise, evaluators are responsible for performing the following tasks using the EEG:

18.5.1. Record Completion of Tasks. For each task, evaluators should determine if the task was fully completed, partially completed, not completed, or not applicable. This rating is not a report card, but rather an objective record of the task. The EEG provides an observation summary below each task.

18.5.2. Record Demonstration of Performance Measures. Upon completion of the exercise tasks, the identified performance measures enable evaluators to record the actions of exercise participants and compare them to specific targets. Performance measures capture quantifiable performance information such as execution times (e.g., time for point of distribution to be activated) and success rates (e.g., percentage of patients treated during point of distribution activation).

18.5.3. Record Supplemental Notes. While the EEGs contain an extensive list of tasks designed to help guide evaluators' observations, evaluators must also record supplemental notes during the exercise. These notes play a key part in lessons learned and improvement plans for future exercises. Note that the EEG form provides minimal space for notes, so evaluators should plan ahead on how they will annotate supplemental observations.

18.6. Post-Exercise Activities. EEG evaluations should be compiled and incorporated into an AAR, which forms the basis for the improvement plan and reporting of lessons learned. The final EEGs, to include the AARs and recommended improvement plans, are due to the EET chief within 30 days after exercise completion. The EET chief should file these documents according to local procedures. Evaluators must complete the following sections of the EEG.

18.6.1. Observation Summary. Compile the exercise EEGs, supplemental notes, and other references and complete the Observation Summary section of the EEG.

18.6.2. Task Summary. Record the activities performed, sequence of events, and times actions occurred.

18.6.3. Observation Analysis. Record the top three strengths and top three areas for improvement observed during the performance of each exercise activity.

18.7. Response Training and Assessment Program (RTAP). RTAP is a comprehensive training, exercise, performance assessment, and evaluation program controlled by commanders that provides installations a tool to optimize cross-functional emergency response in an all hazards environment. This program provides tools that may be used by Wing Inspection Teams to monitor program management compliance, and the Wing Inspection Team (WIT) to assist commanders in assessing integrated wing response performance. It also provides supervisors a tool to conduct training on individual and integrated response processes. The HQ ACC/SGXH SharePoint site contains Response Training and Assessment Program exercise evaluation tools and program information and is available at the following URL: https://cs3.eis.af.mil/sites/MD-SG-00-65/default.aspx

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Attachment 1

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Abbreviations and Acronyms

AAAHC—Accreditation Association for Ambulatory Health Care
AAR—After Action Report
ABLS—Advanced Burn Life Support
ACC—Air Combat Command
ADM—Ambulatory Data Module
AE—Aeromedical Evacuation
AEF—Air and Space Expeditionary Force
AERO—Air Force Response Operations
AFDD—Air Force Doctrine Document
AFI—Air Force Instruction
AFIMS—Air Force Incident Management System
AFIP—Armed Forces Institute of Pathology
AFJMAN—Air Force Joint Manual
AFMAN—Air Force Manual
AFMLO—Air Force Medical Logistics Office
AFMOA—Air Force Medical Operations Agency
AFMS—Air Force Medical Service
AFMSA—Air Force Medical Support Agency
AFOSHSTD—Air Force Occupational Safety and Health Standard
AFOSI—Air Force Office of Special Investigations
AFPD—Air Force Policy Directive
AFRC—Air Force Reserve Command
AFRRI—Armed Forces Radiobiology Research Institute
AFSC—Air Force Specialty Code
AFTTP—Air Force Tactics, Techniques, and Procedures
AFWCF—Air Force Working Capital Fund
AGR—Active Guard and Reserve
AHLTA—Armed Forces Health Longitudinal Technology Application

AHRT—All Hazards Response Training
ALS—Advanced Life Support
AMBUS—Ambulance Bus
AMDS—Aerospace Medicine Squadron
AMEDDC&S—Army Medical Department Center and School
ANG—Air National Guard
APR—Air-Purifying Respirator
AS—Allowance Standard
ASCP—American Society for Clinical Pathology
AT—Antiterrorism
ATC—Applied Technology Center
ATLS—Advanced Trauma Life Support
ATWG—Antiterrorism Working Group
BE—Bioenvironmental Engineering
BEE—Bioenvironmental Engineer
BLS—Basic Life Support
BMBL—Biosafety in Microbiological and Biomedical Laboratories
BMET—Biomedical Equipment Technician
BOS—Base Operating Support
BSL—Biosafety Level
BTA—Biological Threat Agent
BW—Biological Warfare
C2—Command and Control
CAP—College of American Pathologists
CBRN—Chemical, Biological, Radiological, and Nuclear
CBRNE—Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives
CC—Cost Center
C-CBRNE—Counter-Chemical, Biological, Radiological, and High-Yield Explosives
CCLM—Center for Clinical Laboratory Medicine
CCP—Casualty Collection Point
CDC—Centers for Disease Control and Prevention
CE—Civil Engineering
FES—Fire Emergency Services
IEMP—Installation Emergency Management Plan
CERFP—CBRNE Enhanced Response Force Package
CEV—CE Environmental Management Division

CFR—Code of Federal Regulations
COA—Course of Action
COMSEC—Communications Security
CONOPS—Concept of Operations
CONUS—Continental United States
CST—Civil Support Teams
CW—Chemical Warfare
DCP—Disease Containment Plan
DGR—Dangerous Goods Regulations
DHP—Defense Health Program
DIA—Defense Intelligence Agency
DIM—Delayed, Immediate, and Minimal
DMLSS—Defense Medical Logistics Standard Support
DNA—Deoxyribonucleic Acid
DNBI—Disease and Nonbattle Injury
DOD—Department of Defense
DOEHRS—Defense Occupational and Environmental Health Readiness System
DOT—Department of Transportation
DRF—Disaster Response Force
DSCA—Defense Support of Civil Authorities
DTAPS—Disposable Toxicological Agent Protective System
DTPA—Diethylenetriamine Pentaacetic Acid
EC—Environment of Care
ECC—Emergency Communications Center
ECL—Electrochemiluminescence
ECP—Entry Control Point
EEG—Exercise Evaluation Guide
EET—Exercise Evaluation Team
EIA—Enzyme Immunoassay
EIDS—Executive Information Decision Support
ELISA—Enzyme Linked Immunosorbent Assay
EM—Emergency Management
EMA—Emergency Management Agency
EMDT—Expeditionary Medical Decontamination Team
EMS—Emergency Medical Services
EMT—Emergency Medical Technician

EMWG—Emergency Management Working Group

EMX—Emergency Management Exercise

EO—Executive Order

EOC—Emergency Operations Center

EOD—Explosive Ordnance Disposal

EPA—Environmental Protection Agency

ePAC—Electronic Proficiency Analytical Challenges

EPD—Electronic Personal Dosimeter

ERG—Emergency Response Guidebook

ERO—Emergency Response Operations

ESF—Emergency Support Function

ESSENCE—Electronic Surveillance System for the Early Notification of Community-based Epidemics

FBI—Federal Bureau of Investigation

FDA—Food and Drug Administration

FEMA—Federal Emergency Management Agency

FHP—Force Health Protection

FID—Flame Ionization Detector

FM—Functional Manager

FMCBC—Field Management of Chemical and Biological Casualties

FOUO—For Official Use Only

FPCON—Force Protection Condition

FRT—Field Response Team

FSC—Federal Supply Classification

FSTS—Food Safety and Technical Support Section

GFCI—Ground Fault Circuit Interrupter

HAZMAT—Hazardous Material

HAZWOPER—Hazardous Waste Operations and Emergency Response

HHA—Hand-Held Assay

HHQ—Higher Headquarters

HHS—Department of Health and Human Services

HIPAA—Health Insurance Portability and Accountability Act

HML—High Microbial Load

HSEEP—Homeland Security Exercise and Evaluation Program

HSMR—Home Station Medical Response (now referred to as MC-CBRN)

HSPD—Homeland Security Policy Directive

HRA—Health Risk Assessment
HVA—Hazard Vulnerability Analysis
HVAC—Heating, Ventilation, and Air Conditioning
IA—Interagency Agreement
IAP—Incident Action Plan
IATA—International Air Transportation Association
IAW—In Accordance With
IC—Incident Commander
ICC—Installation Control Center
ICP—Incident Command Post
ICS—Incident Command System
IDMT—Independent Duty Medical Technician
IG—Inspector General
IN—Intelligence Officer
IND—Improvised Nuclear Device
ISP—Installation Support Panel
ISSG—Infectious Substance Shipping Guidelines
IV—Intravenous
JBAIDS—Joint Biological Agent Identification and Diagnostic System
JIT—Just in Time
JP—Joint Publication
LAF—Line of the Air Force
LBDT—Laboratory Biological Detection Team
LEL—Lower Explosive Limit
LEPC—Local Emergency Planning Committee
LER—Longitudinal Exposure Record
LPS—Laboratory Preparedness Survey
LRN—Laboratory Response Network
MAA—Mutual Aid Agreement
MAJCOM—Major Command
MCC—Medical Control Center
MC-CBRN—Medical Counter-Chemical, Biological, Radiological, and Nuclear
MC-CBRN WG—MC-CBRN Working Group
MCI—Multicasualty Incident
MCOOP—Medical Continuity of Operations
MCRP—Medical Contingency Response Plan

MDG—Medical Group
MEFPAK—Manpower and Equipment Force Packaging
MEOC—Mobile Emergency Operations Center
MISCAP—Mission Capability Statement
MMCBC—Medical Management of Chemical and Biological Casualties
MMWR—Morbidity and Mortality Weekly Report
MOA—Memorandum of Agreement
MOPP—Mission-Oriented Protective Posture
MOU—Memorandum of Understanding
MR—Medical Readiness
MRA—MEFPAK Responsible Agency
MRC—Medical Readiness Committee
MRDSS—Medical Readiness Decision Support System
MRM—Medical Readiness Manager
MRNCO—Medical Readiness Non-Commissioned Officer
MRO—Medical Readiness Officer
MRT—Medical Readiness Training
MSDS—Material Safety Data Sheet
MSEL—Master Scenario Events List
MSG—Mission Support Group
MTF—Medical Treatment Facility
NARP—Nuclear Weapon Accident Response Procedures
NATO—North Atlantic Treaty Organization
NBC—Nuclear, Biological, and Chemical
NCMI—National Center for Medical Intelligence
NCO—Non-Commissioned Officer
NDMS—National Disaster Medical System
NETOPS—Nuclear Emergency Team Operations
NGB—National Guard Bureau
NiCd—Nickel-Cadmium
NiMH—Nickel-Metal Hydride
NIOSH—National Institute for Occupational Safety and Health
NMRC—Naval Medical Research Center
O&M—Operations and Maintenance
OCONUS—Outside the Continental United States
OEH—Occupational and Environmental Health

OEHSA—Occupational and Environmental Health Site Assessment
OI—Operating Instruction
OPR—Office of Primary Responsibility
OPSEC—Operations Security
ORM—Operational Risk Management
OSHA—Occupational Safety and Health Administration
PA—Public Affairs
PAO—Public Affairs Officer
PAPR—Powered Air Purifying Respirator
PAT—Proficiency Analytical Testing
PCR—Polymerase Chain Reaction
PCS—Permanent Change of Station
PE—Program Element
PEC—Program Element Code
PEM—Program Element Monitor
PFR—Particulate Filter Respirator
PH—Public Health
PHEO—Public Health Emergency Officer
PHMSA—Pipeline and Hazardous Materials Safety Administration
PHO—Public Health Officer
PHT—Public Health Team
PID—Photoionization Detector
POC—Point of Contact
POS—Peacetime Operating Stocks
PPD—Presidential Policy Directive
PPE—Personal Protective Equipment
PT—Proficiency Testing
QAP—Quality Assurance Plan
QUSI—Quarterly Unknown Sample Identification
R&EM—Readiness and Emergency Management
RADIAC—Radioactivity, Detection, Indication, and Computation
RC—Responsibility Center
RDD—Radiological Dispersion Device
RDECOM—Research, Development and Engineering Command
REMM—Radiation Emergency Medical Management
RMO—Resident Medical Officer

RNA—Ribonucleic Acid
RPP—Respiratory Protection Program
RSDL—Reactive Skin Decontamination Lotion
IRSO—Installation Radiation Safety Officer
RSV—Readiness Skills Verification
SBCCOM—Solider and Biological Chemical Command
SCBA—Self-Contained Breathing Apparatus
SF—Security Forces
SFS—Security Forces Squadron
SG—Surgeon General, Surgeon
SGX—Medical Readiness Directorate
SIPRNET—Secret Internet Protocol Router Network
SITREP—Situation Report
SLA—Service Level Agreement
SLEP—Shelf-Life Extension Program
SMART—Specific, Measurable, Achievable, Reliable and Task-Oriented
SNS—Strategic National Stockpile
SOFA—Status of Forces Agreement
SOP—Standard Operating Procedures
START—Simple Triage and Rapid Treatment
STE—Secure Telephone Equipment
TB—Tuberculosis
TDY—Temporary Duty
TG—Technical Guide
TIC—Toxic Industrial Chemical
TIM—Toxic Industrial Material
TNCC—Trauma Nursing Core Course
TR—Traditional Reservist
TTP—Tactics, Techniques, and Procedures
TTX—Table Top Exercise
TWG—Threat Working Group
USAFSAM—United States Air Force School of Aerospace Medicine
USAMRICD—United States Army Medical Research Institute of Chemical Defense
USAMRIID—United States Army Medical Research Institute of Infectious Diseases
USAPHC—United States Army Public Health Command
UTA—Unit Training Assembly

UTC—Unit Type Code

VCO—Vehicle Control Officer

WHO—World Health Organization

WMD—Weapons of Mass Destruction

WRM—War Reserve Materiel

Terms

Allowance Standard (AS)—Air Force publication that prescribes items and quantities (basis of issue) of equipment normally required by Air Force organizations and individuals in the accomplishment of assigned missions, functions, and duties.

Basis of Issue—Items and quantities of equipment and supplies on Air Force allowance standards.

Biological Agent—A microorganism that causes disease in personnel, plants, or animals or causes the deterioration of material. (JP 1-02)

Biological Warfare (BW)—Employment of biological agents to produce casualties in personnel or animals, or damage to plants or materiel, or defense against such employment. (JP 1-02)

Chemical Agent—A chemical substance that is intended for use in military operations to kill, seriously injure, or incapacitate mainly through its physiological effects. The term excludes riot control agents when used for law enforcement purposes, herbicides, smoke, and flames. (JP 1-02)

Chemical, Biological, Radiological, and Nuclear Defense—Measures taken to minimize or negate the vulnerabilities and/or effects of a chemical, biological, radiological, or nuclear incident. Also called CBRN Defense. (JP 1-02)

Chemical, Biological, Radiological, and Nuclear Hazard—Chemical, biological, radiological, and nuclear elements that could cause an adverse affect through their accidental or deliberate release, dissemination, or impacts. Also called CBRN hazard. (JP 1-02)

Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Consequence Management—The consequence management activities for all deliberate and inadvertent releases of chemical, biological, radiological, nuclear, and high-yield explosives that are undertaken when directed or authorized by the President. Also called CBRNE CM. (JP 1-02)

Chemical, Biological, Radiological, Nuclear, or High-Yield Explosives Incident—An emergency resulting from the deliberate or unintentional release of nuclear, biological, radiological, or toxic or poisonous chemical materials, or the detonation of a high-yield explosive. Also called CBRNE incident. (JP 1-02)

Chemical, Biological, Radiological, or Nuclear Incident—Any occurrence, resulting from the use of chemical, biological, radiological, and nuclear weapons and devices; the emergence of secondary hazards arising from counterforce targeting; or the release of toxic industrial materials into the environment, involving the emergence of chemical, biological, radiological, and nuclear hazards. Also called CBRN incident. (JP 1-02)

Chemical, Biological, Radiological, or Nuclear Weapon—A fully engineered assembly designed for employment to cause the release of a chemical or biological agent or radiological material onto a chosen target or to generate a nuclear detonation. Also called CBRN weapon. (JP 1-02)

Chemical Weapon (CW)—Together or separately, (a) a toxic chemical and its precursors, except when intended for a purpose not prohibited under the Chemical Weapons Convention; (b) munitions or a device specifically designed to cause death or other harm through toxic properties of those chemicals specified in (a) above, which would be released as a result of the employment of such munitions or devices; (c) any equipment specifically designed for use directly in connection with the employment of munitions or devices specified in (b) above. (JP 1-02)

Cold Zone—This area contains the command post and such other support functions as are deemed necessary to control the incident. The zone encompassing the warm zone used to carry out all other support functions of the incident. Workers in the cold zone are not required to wear personal protective clothing because the zone is considered safe. The Mobile Emergency Operations Center (MEOC), the IC staging area, and the triage or treatment area are located within the cold zone. (AFI 10-2501)

Control Zones—The areas at a HAZMAT incident that are designated based upon safety and the degree of hazard. (AFI 10-2501)

Crisis Response—A coordinated response initiated by unit leaders in which crisis response teams engage in the provision of services to individuals and groups who may have or who have had direct exposure to a potentially traumatic event.

Crisis Response Teams—Designated teams that provide pre-exposure preparation training, consultation to unit commanders and leaders, screening, psychological first aid, education, and referral in order to foster reliance to potentially traumatic incidents.

Decontamination—The process of making any person, object, or area safe by absorbing, destroying, neutralizing, making harmless, or removing chemical or biological agents, or by removing radioactive material clinging to or around it. (JP 1-02)

Detection—In chemical, biological, radiological, and nuclear environments, the act of locating chemical, biological, radiological, and nuclear hazards by use of chemical, biological, radiological, and nuclear detectors or monitoring and/or survey teams. (JP 1-02)

Emergency Responders—The response elements of a Disaster Response Force (DRF) that deploys to the accident scene after the First Responders to expand C2 and perform support

functions. Emergency Responders include follow-on elements such as firefighters, law enforcement personnel, security personnel, and emergency medical technicians, as well as emergency management personnel, EOD personnel, physicians, nurses, medical treatment providers at medical treatment facilities, public health officers, bioenvironmental engineering personnel, and mortuary affairs personnel. Emergency Responders also include specialized teams such as the RST or SMT. Not all Emergency Responders are First Responders, but all First Responders are Emergency Responders. Emergency Responders are not assigned to additional duties that will conflict with their emergency duties. For the purposes of AFIMS, EOD personnel are considered Emergency Responders but not First Responders. (See also **First Responders**.) (AFI 10-2501)

Emergency Responders (medical)—Disaster Response Force members who deploy after first responders and provide additional support. They include follow-on medical personnel, including additional ambulance support, physicians, nurses, technicians, and other specialized teams. Teams such as radiology, laboratory, pharmacy, surgery, and nutritional medicine would not ordinarily leave the facility and are therefore not considered emergency responders. Examples of MCRP teams in the emergency responder category include the Field Response Team, Triage Team, Public Health Team, and Nursing Services Team. (AFI 41-106)

First Receivers—Healthcare workers at a medical facility that may receive contaminated victims for treatment. (AFI 10-2501) [First receivers typically include the following personnel: clinicians and other medical staff who have a role in receiving and treating contaminated victims at the medical unit such as medical unit triage personnel, personnel conducting patient decontamination, the patient administration team, and the manpower/security team.]

First Responders—The primary health care providers whose responsibility is the provision of immediate clinical care and stabilization in preparation for evacuation to the next health service support capability in the continuum of care. In addition to treating injuries, they treat Service members for common acute minor illnesses. (JP 1-02) [The field response team is the only first response team in the medical unit.]

Gross Decontamination—(Also known as Hasty or Expedient Decontamination.) The start of the decontamination process during which the amount of surface contaminants is significantly reduced. This process typically includes as a minimum completely flushing with water and the removal of most or all of a person's clothing while continuing to flush. When warranted, decontamination soap or other products may be provided. The EPA does not require runoff control when this decontamination process is used to save lives or reduce injury. (AFI 10-2501)

Hazardous Materials (HAZMAT)—Any material that is flammable, corrosive, an oxidizing agent, explosive, toxic, poisonous, etiological, radioactive, nuclear, unduly magnetic, a chemical agent, biological research material, compressed gases, or any other material that, because of its quantity, properties, or packaging, may endanger life or property. (AFI 10-2501)

Hospital Decontamination Zone—The area is use for the decontamination of victims and responders before entering the Medical Treatment Facility.

Hot Zone—The area immediately surrounding a HAZMAT incident, extending far enough to prevent adverse effects from HAZMAT releases to personnel outside the zone. (AFI 10-2501)

Identification—In CBRNE operations, the determination of which CBRNE material or pathogen is present. (AFI 10-2501)

Initial Response—Resources initially committed to an incident. (AFI 10-2501) [As used in this AFTTP, the initial phases after a CBRN event has occurred or been detected. Initial response includes crisis and consequence management to rescue, stabilize, contain contamination, and preserve evidence. Outside assistance will likely be unavailable during this initial response timeframe.]

Prepared Environmental Sample—Raw sample that has undergone the following procedures by qualified BE personnel or equivalent using approved techniques: (a) transfer of raw sample into a container holding a phosphate buffer solution or another approved transport medium; (b) proper contamination avoidance procedures for sample container; and (c) proper chain-of-custody procedures to include forms approved by the state to include contextual information such as results of field screening tests and purpose of requested lab analysis.

Presumptive Identification—The tentative determination of a CBRNE material or pathogen's identity with sufficient specificity and confidence to make expedient, risk-based control decisions until confirmatory identification can be completed. (AFI 10-2501)

Processed Environmental Sample—Prepared sample that has undergone nucleic acid extraction/purification for analysis using the appropriate agent assay, culturing, or other microbiological tests such as ECL using the M1M analyzer.

Technical Decontamination—(Also known as thorough or nine-step process decontamination.) The physical or chemical process of deliberate decontamination to achieve a thorough cleansing and removal of contaminants from personnel and equipment. The EPA requires run-off control for this type of process. (AFI 10-2501) [The patient decontamination process is an example of technical decontamination.]

Toxic Industrial Chemical (TIC)—A chemical developed or manufactured for use in industrial operations or research by industry, government, or academia. For example: pesticides, petrochemicals, fertilizers, corrosives, poisons. These chemicals are not primarily manufactured for the specific purpose of producing human casualties or rendering equipment, facilities, or areas dangerous for human use. Hydrogen cyanide, cyanogens chloride, phosgene, and chloropicrin are industrial chemicals that also can be military chemical agents. (JP 1-02)

Toxic Industrial Materials (TIM)—A generic term for toxic or radioactive substances in solid, liquid, aerosolized, or gaseous form that may be used, or stored for use, for industrial, commercial, medical, military, or domestic purposes. Toxic industrial material may be chemical, biological, or radioactive and described as toxic industrial chemical, toxic industrial biological, or toxic industrial radiological. (JP 1-02)

Warm Zone—The area where personnel and equipment and hot zone support take place. It includes control points for the access corridor and thus assists in reducing the spread of contamination. (AFI 10-2501)

Weapon of Mass Destruction (WMD)—Chemical, biological radiological, or nuclear weapons capable of a high order of destruction or causing mass casualties and exclude the means of transporting or propelling the weapon where such means is a separable and divisible part from the weapon. (JP 1-02)

Attachment 2

REFERENCES FOR HEALTHCARE PROVIDERS

CBRN:

United States Army Public Health Command (USAPHC), Technical Guide (TG) 244, *The Medical CBRN Battlebook,* Aberdeen Proving Ground, MD: USAPHC, April 2011

Chemical:

National Institute for Occupational Safety and Health, *NIOSH Pocket Guide to Chemical Hazards,* Third Edition, DHHS (NIOSH) Publication No. 2005-149, Atlanta: DHHS CDC NIOSH, September 2007, http://www.cdc.gov/niosh/docs/2005-149/

Lieutenant Colonel Shirley D. Tuorinsky et al, *Medical Aspects of Chemical Warfare,* Textbooks of Military Medicine series, Washington DC: Office of the Surgeon General at TMM Publications, Borden Institute, 2008.

United States Army Medical Research Institute of Chemical Defense, *Field Management of Chemical Casualties Handbook,* Third Edition, Aberdeen Proving Grounds, MD: USAMRICD, February 2007

United States Army Medical Research Institute of Chemical Defense, *Medical Management of Chemical Casualties Handbook,* Fourth Edition, Aberdeen Proving Grounds, MD: USAMRICD, January 2007

Biological:

United States Army Medical Research Institute of Infectious Diseases, *USAMRIID's Medical Management of Biological Casualties Handbook,* Sixth Edition, Fort Detrick, MD: USAMRIID, April 2005

Colonel Zygmunt F. Dembeck et al, *Medical Aspects of Biological Warfare,* Textbooks of Military Medicine series, Washington, DC: Office of the Surgeon General, U.S. Army Medical Department Center and School, Borden Institute, 2007

Nuclear/Radiological:

DOD 3150.8-M, *Nuclear Weapon Accident Response Procedures (NARP),* 22 February 2005

Colonel Russ Zajtchuk et al, *Textbook of Military Medicine, Part 1, Warfare, Weaponry, and the Casualty, Volume 2, Medical Consequences of Nuclear Warfare,* Falls Church, VA: TMM Publications, Office of the Surgeon General, U.S. Army, 1989.

Courses:

Patient Decontamination, Course ID #B3AZYDECON-000, Medical Exercise and Training Center (METC), Camp Bullis, TX.

Contingency Preventive Medicine Course In-Residence, Course ID B3OZY4XXX, Wright-Patterson AFB, OH.

Field Management of Chemical and Biological Casualties (FCBC) Course, Course ID 6H-F37/300-F31, USAMRICD, Aberdeen Proving Grounds, MD.

Medical Management of Chemical and Biological Casualties (MCBC) Course, Course ID 6H-F26, USAMRICD Aberdeen Proving Grounds, MD, and USAMRIID, Fort Detrick, MD.

Nuclear Emergency Team Operations (NETOPS) School; Kirtland AFB, NM.

http://www.usuhs.mil/afrri/outreach/meir/meirschd.htm#fy2013

http://www.dtra.mil/docs/dtriac/2013_dnws_catalog.pdf?sfvrsn=0

Satellite Training, Biological and Chemical Warfare and Terrorism: Medical Issues and Response, USAMRIID.

Attachment 3

PATIENT DECONTAMINATION FACILITY SETUP PROCEDURES

A.3.1. Purpose. This chapter provides an overview on how to set up the equipment contained in AS 886A. It is not intended to replace professional training. This chapter can be used as a refresher for a professionally trained patient decontamination team member or may serve as a guide when training new students.

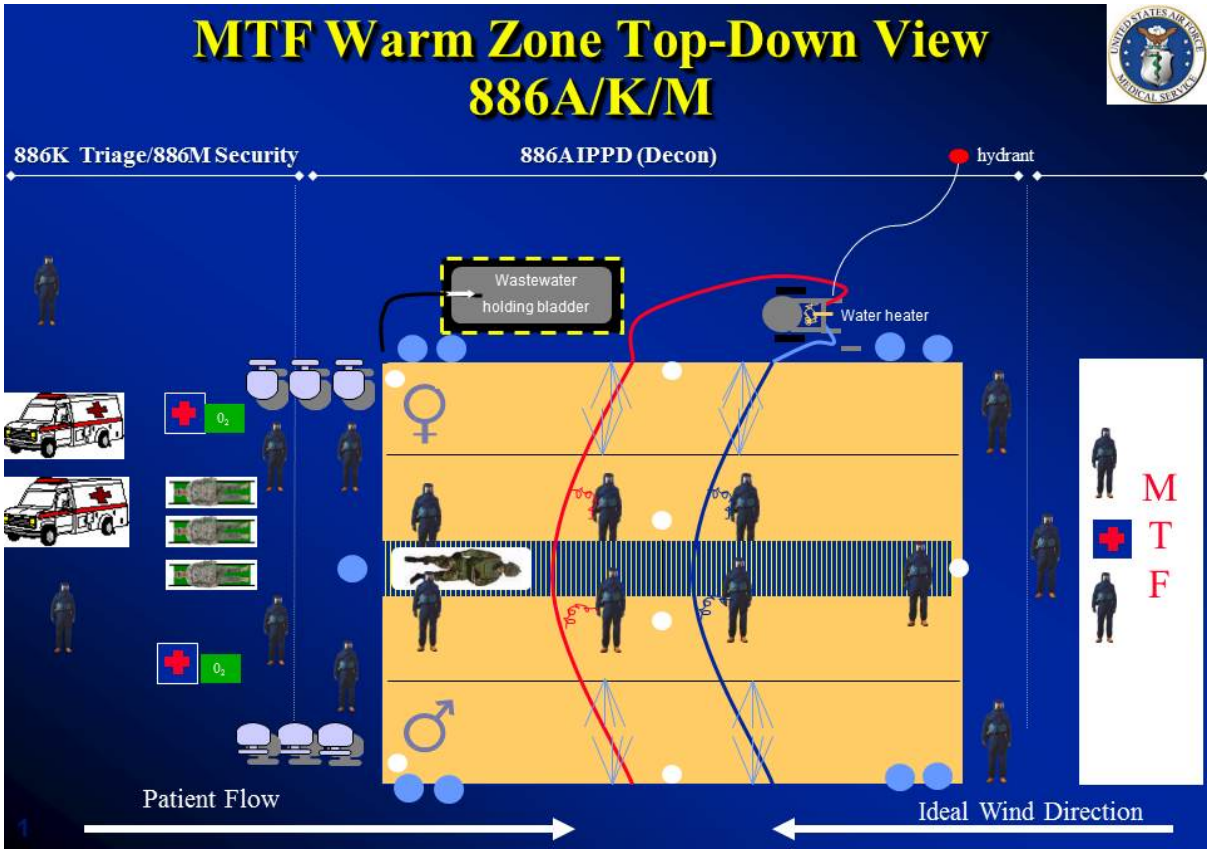
A.3.2. Patient Decontamination Facility. AS 886A contains a pop-up shelter as shown in Figure A.3.1. While patient decontamination does not have to be conducted inside a shelter, a shelter is preferred to protect patients, personnel, and equipment from harsh environmental conditions and to ensure patient privacy. The patient decontamination facility is designed to become progressively cleaner from entrance to exit. Patients pass through four stations: The first station is for clothing removal; the second station is for washing; the third station is for rinsing; and the fourth station is for re-monitoring and towel drying. Typically the exit of the decontamination facility is known as the hot-line that nothing crosses unless it's clean.

Figure A.3.1. Patient Decontamination Shelter

A.3.3. Setup and Operational Recommendations. To achieve mission capability, the shelter must be erected, decontamination stations must be in place to include a working hot water heater and initial wastewater control, and team members must be in PPE gear. Air Force tests conducted with a patient decontamination team of 12 members indicate dividing the team into three sub teams to accomplish these tasks is the most effective way to quickly achieve operational capability. For a 12-member team, it is recommended that 6 members set up the facility, 2 members set up the water system, and 4 members don PPE. As members finish donning their PPE, they can rotate into the setup area and allow other members to don PPE.

A.3.3.1. Patient Decontamination Zone Layout. Figure A.3.2 shows an example patient decontamation zone layout. While positioning the tent with regards to wind direction is ideal, do not attempt to reposition the tent if the winds shift.

Figure A.3.2. Example Patient Decontamination Zone



A.3.3.2. Patient Flow. The team NCOIC (or the patient decontamination team chief) is typically stationed at the front of the shelter to direct patient flow. Primary triage personnel perform initial pre-decontamination triage and are positioned in the staging area in front of the decontamination area. Ambulatory patients flow through both sides of the shelter, male on one side, female on the other. The team chief (or the team NCOIC) is typically stationed at the rear of the shelter with radio communications to direct and help transport decontaminated patients to the secondary triage element. Secondary triage personnel perform post-decontamination triage and are positioned in the cold zone between the decontamination area and the medical facility. The team is staged inside or near the entrance to the medical unit to prevent potential hypothermia to patients.

A.3.3.3. Radio Communications. Radio communication must be maintained with the MCC. Although AS 886 does not include radios, the patient decontamination, triage, and manpower/security team chiefs usually have radios assigned to the team (similar to other disaster team chiefs) to communicate with the MCC. The primary triage team should maintain radio communications with ambulances to evaluate whether patients arriving by ambulance from the incident site require additional decontamination. The primary triage team must maintain communications with the patient decontamination team chief and the

MCC regarding patient flow rates, injury types, and additional manpower and supply needs. They must also communicate with physicians inside the medical unit through the MCC regarding any special medical interventions patients may require.

A.3.4. Shelter Erecting Procedures. Erecting the patient decontamination shelter involves the following steps.

Step 1. Move the shelter to the setup site using the shelter cart as shown in Figure A.3.3. This step requires two people.

Figure A.3.3. Shelter Cart

Step 2. Remove the berm from the berm bag shown in Figure A.3.4.

Figure A.3.4. Berm Bag

Step 3. Unroll the berm and lay it flat, using the grab straps. This step requires four to eight people. If the berm was rolled properly, eight red grab straps should be available. Ensure the berm is right side up. The top of the berm has eight yellow clips as shown in Figure A.3.5.

Figure A.3.5. Berm Clips

Step 4. Move the shelter bag to the center of the berm (see Figure A.3.6.). This step requires four people. Use the lifting straps located on the bag to move the shelter. Team members should lift high and avoid dragging the shelter. Assuming the shelter was packed correctly, the top should have yellow reflectors indicating the direction of the shelter throughput as shown in Figure A.3.7.

Figure A.3.6. Shelter Bag

Figure A.3.7. Throughput Reflectors

Step 5. Open the shelter bag, including the straps and Velcro, and lay the bag flat on the berm. Remove the yellow compression strap from the shelter as shown in Figure A.3.8.

Figure A.3.8. Shelter Bag and Straps

Step 6. Stretch the shelter. This step requires four people. Each corner of the shelter has two red grabbing straps. Each person should grab the lifting straps, one in each hand, and pull as shown in Figure A.3.9. Be alert for any resistance in case something catches and needs untangling.

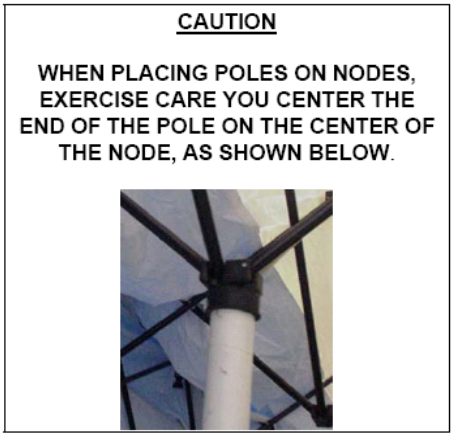
Figure A.3.9. Stretching the Shelter

Step 7. To lift the shelter, position two lifters at the yellow reflectors at each end of the shelter (four people total). Use a black metal strut to lift the shelter high enough to rest on the white push poles on each end, as shown in Figure A.3.10.

Figure A.3.10. Shelter Erection

Step 8. Two team members should place the other two push poles under the shelter at the silver bolts on the center white curtain as shown in Figure A.3.11.

Figure A.3.11. Push Pole Placement



Step 9. When all four push poles are in place, raise the shelter completely as shown in Figure A.3.12.

Figure A.3.12. Raised Shelter

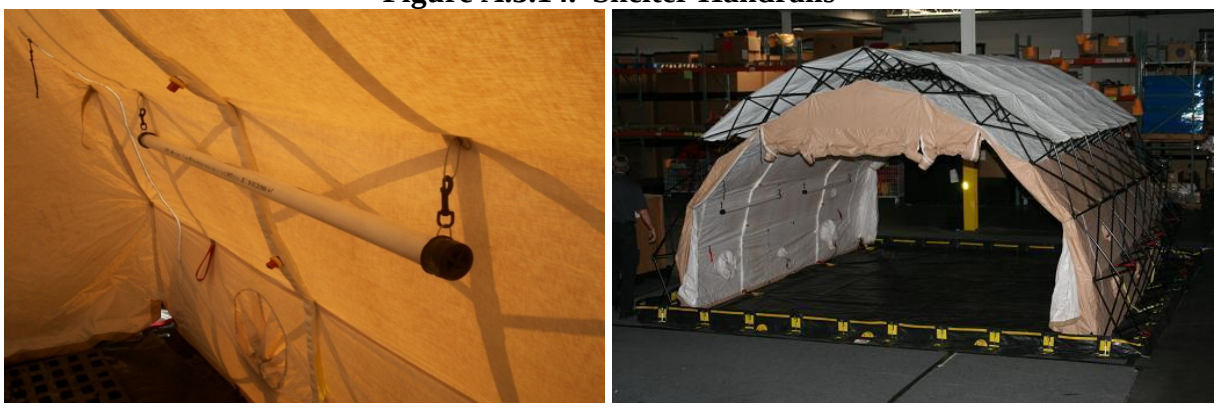
Step 10. Clip the shelter to the berm. This step requires at least two people (with one person working on each side of the shelter). Start with the four outer corner clips, and then attach the four inner clips.

Step 11. Clip and tighten the red outer straps on the shelter as shown in Figure A.3.13.

Figure A.3.13. Shelter Clips and Straps

Step 12. When the red outer straps are secure, lower the lifting poles and secure to the sides of the shelter as handrails as shown in Figure A.3.14.

Figure A.3.14. Shelter Handrails



Step 13. Anchor the shelter. The shelter comes with an anchor kit that includes yellow lines and stakes as shown in Figure A.3.15.

Figure A.3.15. Anchor Kit

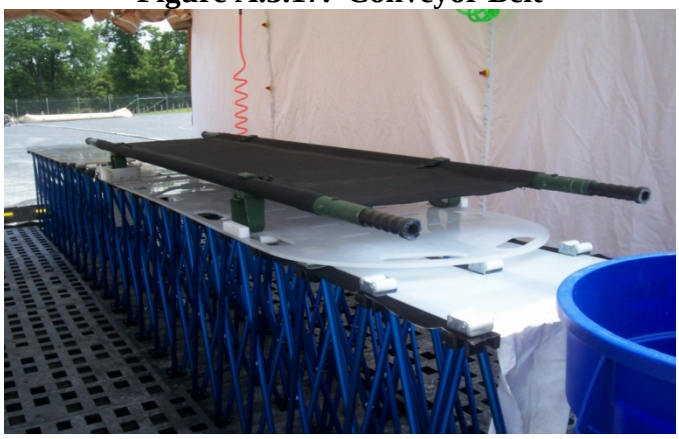
Step 14. If the shelter is erected on pavement, use 32-gallon trash cans filled with water to anchor the shelter as shown in Figure A.3.16. Ideally, once a setup site is selected, permanent tie-down eye-bolts (like aircraft tie-down anchors) should be recessed into the pavement at the shelter stake-down points to facilitate anchoring.

Figure A.3.16. Shelter Anchored on Pavement

A.3.5. Patient Decontamination Station Setup Procedures. Setting up the patient decontamination stations involves the following steps:

Step 1. Open the conveyor bags and stretch the conveyors down the center of the berm as shown in Figure A.3.17. AS 886A includes two 10-foot conveyors. This step requires two people.

Figure A.3.17. Conveyor Belt



Step 2. Connect the Velcro in the middle of the conveyors and place the white safety stops on the two ends.

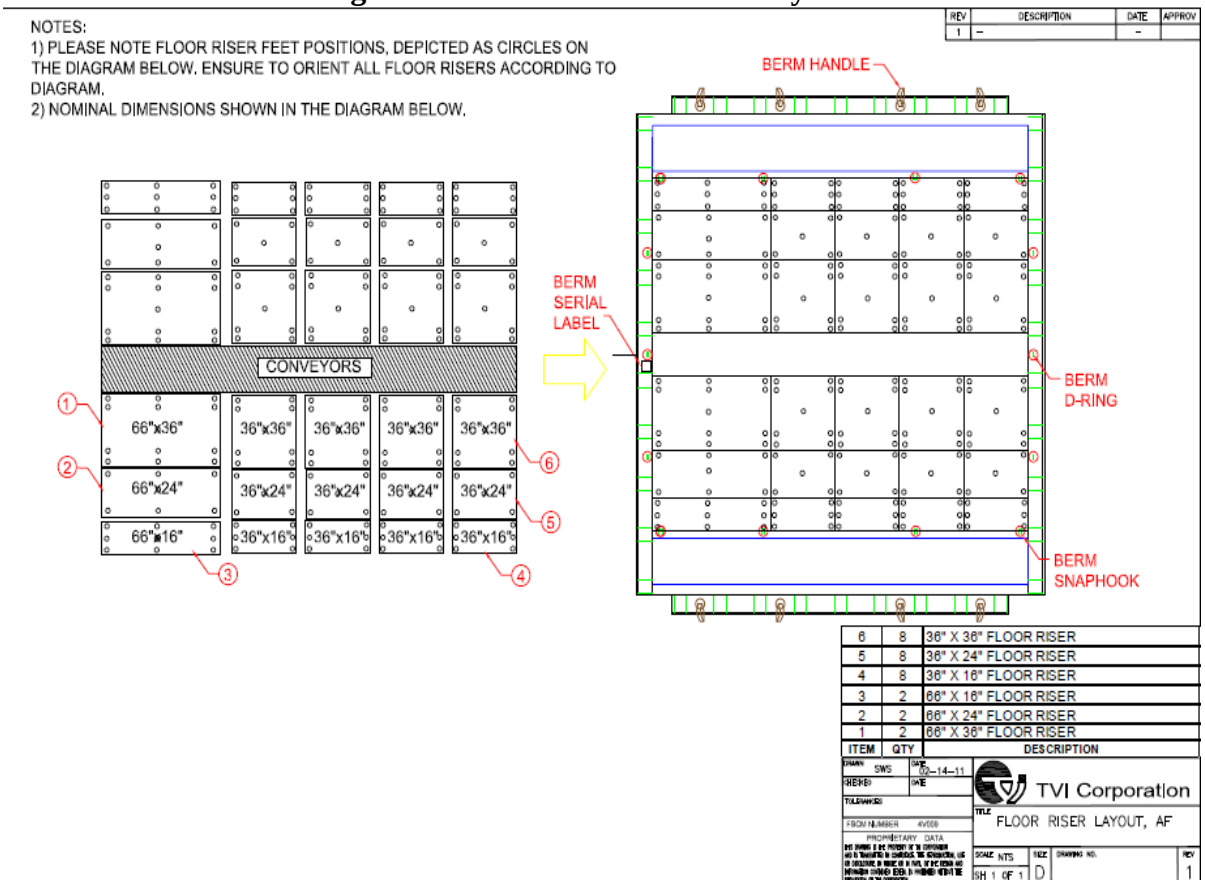
Step 3 (For original floor grids). If using the original Reeves floor grids, set the black floor elevation pallets lengthwise inside the berm. This step requires two to six people. The

pallets are three feet wide by eight feet long. Start along the conveyor and lay four pallets on each side for a total of eight as shown in Figure A.3.18. **Note:** The pallets do not fit tightly in the berm to allow space for the wastewater transfer pump (depending on the slope of setup area).

Figure A.3.18. Elevation Pallets

Step 3 (For new floor grids). The newer IRT floor grids have six different sized grids. Follow the schematic in Figure A.3.19 for proper laydown of these grids. It is recommended that a local laydown plan be developed, such as color coding or numbering the grids, to facilitate this process.

Figure A.3.19. IRT Floor Grid Laydown



Step 4. Connect in the lane curtains and spray wands as shown in Figures A.3.20.

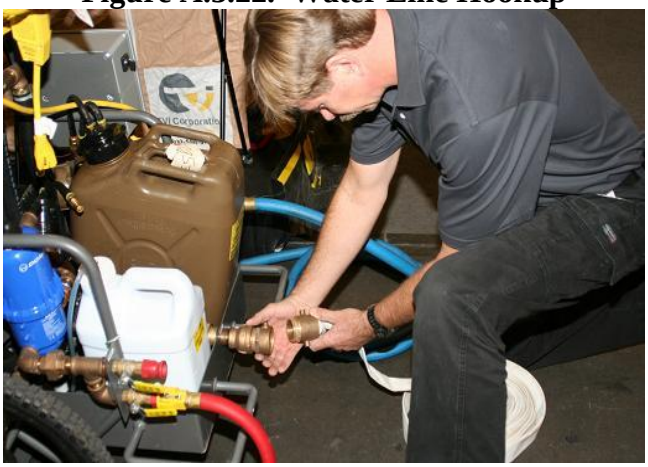
Figure A.3.20. Lane Curtains and Spray Wands

Step 5. Connect the water heater to a fire hydrant using a fire hose and a 2.5–1.5 inch adapter as shown in Figure A.3.21. Be sure to flush the hydrant before connecting it to the water heater. Normally the water heater should be positioned on the clean side of the shelter for easier operations.

Figure A.3.21. Water System Components

Step 6. Connect the red and blue water line camlocks to the water heater and the shelter as shown in Figure A.3.22. The red lines have decontaminant injected and flow toward the hot zone. The blue lines are for rinsing and flow toward the shelter's cold zone. **Note:** The red and blue colors do not indicate hot and cold water temperature.

Figure A.3.22. Water Line Hookup



Step 7. Before starting the water heater, ensure that the fuel can contains diesel fuel (NOT bio-diesel) and that 110-volt GFCI protected electricity is available. **Note:** Follow manufacturer's instructions.

Step 8. Start the water heater and ensure water is flowing from the water heater into the shelter.

Step 9. Once water is flowing, check the baseline cool water temperature.

Step 10. Turn the water heater switch to the on position and wait 10 seconds. If the heater is working, set the temperature inside the shelter to 98.6 degrees. If the heater is not working after 10 seconds, check the fuel, electricity, and water flow systems for problems.

Step 11. Add the soap mixture to the injection reservoir tanks. The soap mixture should be 10 ounces of dishwashing liquid (e.g., Dawn) per gallon of water, or one 25-ounce bottle of dishwashing liquid for each full tank.

A.3.6. Personal Protective Equipment (PPE). During setup, all team members must remain vigilant for patient arrivals. If potentially contaminated patients arrive at any time before setup is complete, all team members must immediately retreat indoors and don PPE before completing setup. The triage team (primary and secondary) is activated in conjunction with the patient decontamination team and has its own PPE on AS 886K. Manpower/security team (decon support subteam) personnel are also activated in conjunction with the patient decontamination team and have their own PPE on AS 886M. All members wearing PPE should receive HAZMAT first receiver operations and respiratory protection training and ensure a proper buddy-check system before entering the medical warm-zone operations area. Figure A.3.23 shows an example of the PPE used by the patient decontamination team.

Figure A.3.23. Patient Decontamination PPE

A.3.7. Wastewater Management. EPA alert EPA 550-F-00-009, *First Responders' Environmental Liability Due to Mass Decontamination Runoff,* states:

> *Once any imminent threats to human health and life are addressed, first responders should immediately take all reasonable efforts to contain the contamination and avoid or mitigate environmental consequences.*

On a level surface, the black berm under the shelter holds approximately 1,000 gallons and eventually, the run-off must be pumped into a holding bladder.

A.3.7.1. Controlling Run-Off. Follow these procedures to pump the run-off from the berm into a holding bladder.

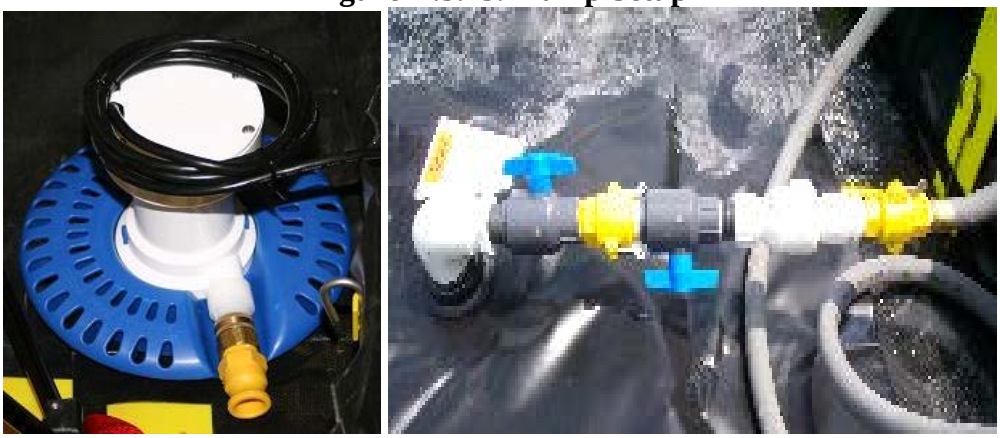
Step 1. Place the wastewater pump in the berm.

Step 2. Place the wastewater bladder within 20 feet of the pump as shown in Figure A.3.24. Normally the wastewater bladder is positioned on the dirty side of the shelter.

Figure A.3.24. Wastewater Bladder

Step 3. Connect the pump to the bladder with the gray hose and the back-flow prevention device provided in the pump bag as shown in Figure A.3.25.

Figure A.3.25. Pump Setup



Step 4. Ensure GFCI protection, and plug the pump into a 110-volt outlet.

A.3.7.2. Wastewater Analysis and Disposal. Before disposing of wastewater, contact the installation Installation Management Flight to arrange for proper disposal. They may require wastewater sampling and analysis for hazardous waste characterization so they can determine proper treatment and disposal procedures . Points of contact for this agency should be included in Annex N of the MCRP and in local checklists.

A.3.7.3. Wastewater Collection. During the recovery phase of the response, there may be a requirement for either the AFOSI or FBI to collect wastewater samples for evidence. Points of contact for this agency should also be included in Annex N of the MCRP and in local checklists.

A.3.8. Ventilation and Off-Gassing. Off-gassing can cause vapor concentrations to increase in an enclosed shelter. The significance of vapor concentration during decontamination operations

is difficult to predict and depends on the agent, quantity present, air temperature, and various other factors. Although patient decontamination team members are protected from chemical agent vapors by PPE, patients are vulnerable. To minimize vapor build-up in the facility, increase ventilation (e.g., opening doors) and frequently remove bags of contaminated waste materials from the interior of the shelter.

A.3.9. Water Heater Maintenance. When the mission is complete, make sure all water has been drained or completely emptied from the water heater to avoid corrosion and freeze damage. Water must be emptied from the main pipes as well as the Dosetron soap injection system. A bicycle pump can be used to push air through the Schrader valve (located behind the check valve) to clear remaining water out of the water heater. When the center piston is removed from the Dosetron soap injection system, the outer reservoir ring still houses water and is where many water heaters crack from freeze damage. Use a syringe to draw remaining water from the outer reservoir ring. The manufacturer recommends running the water heater at least every 90 days to prevent internal corrosion and keep it operational.

Attachment 4

PATIENT DECONTAMINATION PROCEDURES

A.4.1. Purpose. Decontamination procedures must prevent re-contamination of patients and protect the medical staff and facilities. Patient decontamination may cause a bottleneck in patient movement on the way to more definitive treatment in the medical unit. To help ensure a smooth traffic flow, the patient decontamination system uses an assembly line approach. This approach divides the decontamination process into separate stations that handle successively cleaner tasks. Each station operates in its own space to facilitate patient flow. Therefore, team members perform fewer tasks and are less likely to accidentally skip a step.

A.4.2. Station 1: Triage, Emergency Treatment, and Security. Station 1 is located in front of the patient decontamination tent. The primary triage team performs triage and lifesaving emergency medical treatment before the patient decontamination process. The manpower/security decontamination support sub-team (a sub-set of the manpower/security team) also works in this section to ensure an orderly flow of patients and vehicles, using supplies and PPE from 886M.

A.4.2.1. Patient Flow. Unless otherwise instructed by the medical commander, patients are processed through the decontamination facility in the following priority: 1–Immediate; 2–Minimal; 3–Delayed.

A.4.2.2. Triage. Triage personnel may move from station to station as necessary to maintain patient stabilization. Once ABCs are established on the patient, continue complete patient assessment and proceed with decontamination operations. Litter patients are placed on a NATO litter which then fits on the TVI transfer board and placed on the patient conveyor system. If necessary, a backboard may also be used for spine support when a back or neck injury is suspected. When used, the patient and backboard should be strapped to the NATO litter for safety of the patient, then the litter is placed on the TVI transfer board and onto the conveyor.

A.4.2.3. Emergency Treatment. The scope and limitations of treatment are based on medical resources available, patient arrival rates, and type of contaminant. Treatment at Station 1 may include the administration of auto-injectors and diazepam, application of pressure dressings, establishing a patient airway, and starting IV infusions. If a liquid agent has contaminated a patient, it can be covered during life-saving treatment. Contaminated clothing can be cut away or removed.

A.4.2.4. Cross-Contamination. Emergency medical equipment used to treat patients before decontamination should be decontaminated as completely as possible to avoid cross-contamination between patients. However, because patients are only minutes away from a body wash-down, cross-contamination is not a major concern.

A.4.2.5. Supplies and Equipment. Medical supplies, equipment, and PPE for Station 1 should be obtained from AS 886K, not AS 886A.

A.4.2.6. PPE Constraints. Wearing PPE can limit patient assessment because of the reduction of tactile sensation necessary for the assessment of pulses, respirations, skin temperature, and skin turgor. If patients are wearing any type of PPE, this too can obstruct access and complicate assessment of the patient's condition and treatment. For this reason, medical unit personnel must frequently train and exercise the patient movement, triage, and decontamination process using assets from 886A, 886K, and 886M to gain proficiency and ensure currency and competency in these vital skills.

A.4.3. Station 2: Clothing Cut and Removal Station. Station 2 is the first stop inside the patient decontamination tent. Station 2 has two members stationed on the litter patient line and two members stationed on each ambulatory patient line. One patient decontamination team member should be assigned to facilitate operations, such as assisting with patient traffic, tending the heater, and assisting other patient decontamination team members as needed.

A.4.3.1. Process Overview. Patient decontamination procedures differ from standard wartime decontamination procedures because CBRN incidents typically involve a surprise attack or accident in which personnel are usually caught unprepared and unprotected (i.e., without mission-oriented protective posture [MOPP] gear). Clothing provides little or no protection from contaminants. Most clothing readily absorbs contaminants and holds contaminants against the patient's skin until the clothing is removed (especially CW agents designed to be absorbent). Immediate stripping of clothing and skin washing is imperative. Unlike the step-by-step process of cutting away a contaminated ground crew ensemble, contaminated clothing must be removed as rapidly as possible without any particular concern for the process or order of removal. AS 886A provides scissors and rescue knives for this purpose.

A.4.3.2. Litter Patients. As litter patients arrive from Station 1 (Triage), begin the process of clothing removal. Cut off all the patient's clothes. Roll patients on their sides (away from the conveyor system) and complete the clothing removal process, then move the patient on to Station 3 for washing.

A.4.3.3. Ambulatory Patients. Ambulatory patients are capable of removing their own clothes. Patients processing through the ambulatory decontamination line should be supervised and assisted by a member of the patient decontamination team.

A.4.3.4. Clothing and Personal Items. All patient clothing and personal effects should be placed into individual plastic personal effects bags (included in AS 886A). These bags should be labeled with the patient's name (if readily available), sealed, and placed outside the patient decontamination zone for processing later. This processing may include decontamination and retrieval of valuables and possible assessment by law enforcement agencies for evidence if a criminal act has occurred. Depending on the nature of the incident, this procedure may be performed by outside agencies that arrive later and provide follow-on assistance. Note: Consider allowing patients to maintain identification, e.g. ID cards, driver's license, etc.,that can be easily decontaminated.

A.4.3.5. Scissors and Rescue Knives. Using bandage scissors and rescue knifes in combination helps ensure fast and accurate clothing removal. Use scissors for the tight or difficult to access areas (neck and shoulder areas), and use rescue knives for straight or long cuts (sleeves and pant legs). Standard bandage scissors typically become dull after cutting two or three complete uniforms or civilian suits. Replace scissors frequently. Rescue knives have a tendency to clog but can be easily cleared with any pointed instrument. Cutting blades and scissors left wet overnight will rust. When real-world operations or training sessions are over, rinse the instruments in clear water and spray them with lubricant (WD-40) to prevent corrosion.

A.4.3.6. Cross-Contamination. Contaminated scissors and knives should be decontaminated as completely as possible to avoid cross contamination between patients. However, because patients are only minutes away from a body wash-down, cross-contamination is not a major concern.

A.4.4. Station 3: Wash and Rinse Station. Station 3 is the second stop inside the patient decontamination tent. Station 3 has four members stationed on the litter patient line.

A.4.4.1. Contaminant Removal. Soap and water is the most effective way to remove contaminants from skin and hair. RSDL can also be used for self decontamination as well as to neutralize CW agents. However, RSDL is not currently approved for whole-body decontamination or for TIC/TIM decontamination. RSDL is not recommended for decontaminating wounds because it may impair the healing process. Wash patients' skin using soap and water. In open wounds, use a mild soap that cuts grease (e.g., Dawn dishwashing liquid). Note that minor bleeding wounds are self-decontaminating wounds.

A.4.4.2. Litter Patient Decontamination. For litter patients, do the following:

A.4.4.2.1. Wash from front to back of contaminated body surfaces.

A.4.4.2.2. Focus on hairy areas and creases of the body that may harbor contamination.

A.4.4.2.3. Attempt to wash long hair, but if contamination persists, it may have to be cut using scissors.

A.4.4.2.4. Roll the patient from side to side to ensure the patient's backside and the backboard underneath are cleaned.

A.4.4.3. Ambulatory Patient Decontamination. For ambulatory patients, do the following:

A.4.4.3.1. Have the patient step up on the shower pallet in the shower area.

A.4.4.3.2. Assist patients with washing their bodies, focusing on creases and hairy areas. Hair is very difficult to decontaminate. If contamination persists, hair may have to be cut with scissors.

A.4.4.4. Soap Mixture. Do not use pure dishwashing soap in the injection system as it will clog the system and cause eye irritation. The recommended mixture is 10 ounces of dishwashing liquid per gallon of water in the injection reservoir tank (the white jug). The injection reservoir tank holds 2.5 gallons. Use one 25-ounce bottle of dishwashing liquid per full tank of water.

A.4.5. Station 4: Dry and Re-Monitor. Station 4 is the last stop inside the patient decontamination zone. Station 4 has two members positioned on the litter patient line. The patient decontamination team chief also operates from this location.

A.4.5.1. Patient Processing. Evaluate patients for signs of gross contamination. If visible, return them to Station 3 for further washing. If patients are clean, dry them with a towel and cover them with a blanket. Provide ambulatory patients with gown coats and booties.

A.4.5.2. Litter Patients. Patients should be removed from the transfer board and placed in the cold zone where the patient will be transferred to a clean, dry litter. Manpower/security team personnel (not patient decontamination team personnel) transfer the patient and clean, dry litter from the vapor hot line to the secondary triage team for re-triaging and for more definitive treatment.

A.4.5.3. Backboards. Backboards and litters are washed along with the patients in Station 3. However, after patients are transferred to clean, dry litters for treatment outside the patient decontamination, the original litters and straps should be processed back through the line and re-washed at Station 3 and re-used.

A.4.6. Station 5: Re-Triage After Patient Decontamination Operations. The secondary triage team re-triages patients before admission into the medical unit or transport to a receiving facility. The secondary triage team should stage inside or as close to the medical unit's entrance as possible to protect patients from potential hypothermia and to minimize the distance that patients have to be transported. Patient decontamination team members must not be dual-tasked as members of the secondary triage team. Since patients have already been decontaminated, the secondary triage team does not need to don PPE.

A.4.7. **Self Decontamination for IPPD/Triage/Manpower/Security.** There are three different considerations regarding self decontamination: when the shift or event has ended, when taking a break as part of the work-rest cycle, etc., and when the individual is in distress.

A.4.7.1. **End of Shift/End of Event**

A.4.7.1.1. Buddy wash in the litter lane

A.4.7.1.2. Doff protective clothing in pre-decon warm zone in the following sequence:

A.4.7.1.2.1. The outer glove is integrated as part of DTAPS suit, so remove by slipping hands out, then turn the gloves inside out

A.4.7.1.2.2. Loosen/secure PAPR belt (avoid shaking)

A.4.7.1.2.3. Remove PAPR hood

A.4.7.1.2.4. Partially remove suit, turning it inside out and folding downward

A.4.7.1.2.5. Remove boots

A.4.7.1.2.6. Finish removing suit

A.4.7.1.2.7. Remove inner glove and discard into bio-hazard trash container

A.4.7.1.2.8. Isolate PPE components until level of contamination is determined and potential for decontamination and re-use is established. Discard items that cannot be effectively cleaned (e.g. filters, gloves). Also it may not be possible to completely remove persistent contaminants from PAPR belts. Consult with Bioenvironmental Engineering to determine which items can be effectively cleaned for re-use.

A.4.7.1.3. Personnel should then move to the ambulatory lane and remove scrubs, undergarments, etc., and place them in plastic bag. Double bag all clothing and label bags appropriately

A.4.7.1.4. Complete showering process, dry off and dress in replacement clothing, scrubs, etc.

A.4.7.1.5. Complete post operation medical assess and document

A.4.7.2. **Work-Rest Cycle**

A.4.7.2.1. Buddy wash in the litter lane

A.4.7.2.2. Personnel then go to designated rest area, i.e. shaded and out-of-the-way (but not in the MTF). Recommend a pop-up cover of some type if a shaded area isn't available in the designated medical decon zone. Should also include chairs as well as fans or air conditioning if possible.

A.4.7.2.3. Peel hood off and turn off PAPR; then unzip suit to allow for cooling

A.4.7.2.4. Personnel should then rehydrate

A.4.7.3. **Staff Personnel in Distress**

A.4.7.3.1. If staff member becomes distressed, other staff members should assist immediately

A.4.7.3.2. Decontaminate member's PPE with soap and water in the litter lane (may need to place member on backboard – consider treating member as an immediate Triage patient)

A.4.7.3.3. Quickly remove PPE in a head-to-toe fashion (cut PPE off if necessary), and render medical care as needed

A.4.7.3.4. Bag all PPE items and discard as appropriate following the same guidelines as above for end of event or shift

A.4.8. **Management of Heat Stress and Other Potential Health Issues**. The day of the response event, all personnel should undergo a medical assessment before putting the PPE on and performing patient decon duties, as well as at the conclusion of the event with this data being recorded on a medical surveillance form (refer to the OSHA Best Practice guide for a couple of examples). At a minimum personnel should be assessed to determine if they are pregnant, on medication for upper respiratory illness, have symptoms of illness, have open sores, rash or sunburn, or irregular heart rate or rhythm. If time permits, the assessment should also include checking blood pressure, pulse rate, respiration rate and temperature with member being excluded if the following levels are exceeded:

A.4.8.1. Blood Pressure (Diastolic) = >105

A.4.8.2. Pulse Rate = > [70% (220 – age0]

A.4.8.3. Respiration = >24/minute

A.4.8.4. Temperature = >99.5 deg F oral

Attachment 5

TOXIC INDUSTRIAL CHEMICAL INFORMATION

(This table is for reference only.)

USACHPPM Toxic Industrial Chemicals [27] Info Card - Updated last: hauschildvd **PAGE 1 of 2** 11/1/01

Chemical	Rate of Onset	Persists in Environment	Toxicity Thresholds (ppm/hour) impairment / fatality	BDO/ Mask Effective	Odor	Related hazards/ Source/ Use	Field Detection: Sensidyne tube (#)	Field Detection: 205A series Miran SapphiRE	Symptoms (from inhalation and dermal contact)	Decontamination and Treatment
Allyl alcohol *(colorless liquid)*	Immediate	Days-weeks, +	7.7 / 22	?	Mustard-like	Rapidly absorbed through skin highly flammmable with caustic fumes; used as contact pesticide, plastic/perfume manufacture	Not available (liquid)	Not available (liquid)	General Mild Health Effects: - Nausea, dizziness; headaches; chills; coughing, choking, throat irritation Specific and More Severe Effects: *Eyes:* - Irritation; tearing/watering; pain; intolerance to light (e.g. from Hydrogen Sulfide) *Skin (particularly if liquid contact):* - Irritation; burning; blisters (eg with Hydrogen Fluoride); vesiculation (nitric & sulfuric acid); dermatitis; and frostbite (e.g. Acryonitrile) *Respiratory Tract/Lungs:* - Breathing difficulty.respiratory distress; laryngeal spasm (e.g., from hydrogen chloride or hydrogen bromide); **pulmonary edema** *Chest/Heart:* - chest pain; tachardia (rapid heartbeat) *Systemic; Blood* - Cyanotic (blue skin from lack Oxy to blood) (e.g, from SO2, SO3, NO2, ethylene oxide): - Convulsions/seizures - Hemolytic anemia; kidney damage (Arsine) Additional Chemical Specific Symptoms: *pink/froth sputum:* Ammonia *mucoid frothy sputum*: SO2,SO3, NO2 *peculiar taste*: Ethylene oxide *asphyxia:* Acrylonitrile *metal taste & or garlic breath:*Hydrogen Selenide ----------→	Decontamination: - Flush (15 min) eyes & skin with water; - Soap optional after initial water rinse Treatment & Diagnostic procedures/ options: *Eye injuries:* - Saline wash - Antibiotic ointments *Skin burns/blisters/irritation* - topical corticosteroids and/or antihistamines - Inject MgSO4 at affected site (*Hydrogen fluoride)* *Breathing/respiratory distress:* - Oxygen & ventilation - Prophylactic antibiotics - Xrays - Pulse ox/blood gas NOTE: **avoid mouth to mouth** to protect against cross contamination *Broncospasm/Pulm Edema* - Inhale corticosteroids - Beta2 agonist - Endotracheal intubation *Hemolysis (e.g. Arsine):* - IV, transfusion *Seizures:* - Diazepam **See page 2 ----------→**
Acrolein *(colorless-yellow liq)*	Immediate	Minutes to hour	0.1 / 1.4	Poor	1 ppm -sharp, acrid, sweet	Toxic and corrosive fumes; Herbicide	#93 *(BUT high detection)*	Not standard		
Acrylonitrile *(clear/pale yellow liq)*	Immediate	Minutes to HOURS	35 / 75	Poor	17 ppm - unpleasant, sweet (peach)	Flammable gas; used in Plastics, coatings, adhesives industries; dyes; pharmaceuticals;	#191	Standard		
Ammonia *(colorless gas)*	Immediate	Minutes	110 / 1100	Poor	17 ppm - sharp,suffocating,dry urine	Explosives manufacture; pesticides; detergents industry	#3M	Standard		
Arsine *(colorless gas)*	Immediate to 24 hours	Minutes to hours	0.2 / 0.5	Good	0.5 ppm - garlic-like	Reacts with H20 (don't use H2O in fire); Used in electronics ind	#19L	Not standard		
Chlorine *(greenish-yellow gas)*	Immediate to hours	Minutes to hours	3 / 22	Good	3.5 ppm-pungent (bleach), suffocating	Irritating corr fumes; heavier than air; Cleaner/disinfectant in many industries; water treatment; WWI war gas;	#80	Not standard		
Diborane *(colorless gas)*	Immediate	Minutes to hours	>1 / 15	Good	2.5 ppm -sickly sweet	Very flammable; Intermediate chemical manufacturing;	#22	Not standard		
Ethylene oxide *(colorless gas/liq)*	Immediate	Minutes to hours	45 / 200	Poor	425 ppm - sweet, ether-like	Very flammable; Rocket propellant; fumigant; sterilization in health care industry;	#163L	Standard		
Formaldehyde *(clear- white gas/liq)*	Immediate	Hours	10 / 25	Poor	1 ppm -pungt suffocating	Flammable,Disinfection/ germicide; fungicide; textile; health care (tissue fixing)	#91D (Dosi)	Standard		
Hydrogen bromide *(pale yellow liq)*	Immediate	Minutes to hours	3 / 30	Good	2 ppm -sharp stinging	Chemical manufacturing industry; very corrosive	#15L	Not standard		
Hydrogen chloride (hydrochloric acid) *(pale yellow-colorless liq)*	Immediate	Minutes to hours	22 / 104	Good	0.77 ppm - pungent, irritating	Corrosive liquid; Ore, other metal refining/ cleaning; food/pickling; petroleum;	#80	Not standard		
Hydrogen Cyanide *(colorless-white-pale blue gas; liquid <75F)*	Immediate	MInutes	7.0 / 15-50	Good	1-5 ppm-bitter/sweet almond-like	Weak acid except in water or mucous membranes – then corrosive/irritating; used as War gas, pesticide, Herbicide; other industries	#12L	Not Standard		
Hydrogen fluoride *(colorless gas/fuming liq)*	Immediate & Delayed	Minutes to hours	24 / 44	Good	0.4 ppm - strong irritating	Corrosive liq; Aluminum and other metal industries; insecticide manufacturing-	#17	Not standard		
Hydrogen selenide *(colorless gas)*	Immediate	Minutes - Hour	0.2 / 1.5+	Poor	0.3 ppm-decayed horseradish	Highly flammable/explosive; can cause burns/frostbite; decomposes rapidly to form elemental selenium Metals &semiconductor prep;	Not available	Not standard		
Hydrogen sulfide *(colorless gas)*	Immediate & Delayed	MINUTES to hours	30 / 100	Good	0.1 ppm -rotten egg	Disinfectant lubricant/oils; interm for HC manufacture; deadens sense of smell	#44	Not standard		

USACHPPM Toxic Industrial Chemicals [27] Info Card - Updated last: hauschildvd **PAGE 2 of 2** 11/1/01

Chemical	Rate of Onset	Persists in Environment	Toxicity Thresholds (ppm/hour) impairment / fatality	BDO/ Mask Effective	Odor	Source/ Use/other hazard	Field Detection: Sensidyne tube (#)	Field Detection: 205Aseries Miran SapphiRE	Symptoms (from inhalation and dermal contact	Decontamination and Treatment
Methyl hydrazine	Immediate & Delayed (LUNGS)	Hours - days	1.0 / 3.0	Poor?	1 –10 ppm-ammonia like	Irritating vapors; Flammable-Once ignited continues to burn; Used as solvent, rocket fuel;	#185	Not standard		
Hydrazine *Colorless, oil (fuming) liquid/waxy solid or crystals*	Immediate & Delayed (LUNGS)	Hours - days	13 / 35	Poor?	3-4 ppm-Ammonia -like	Flammable- Once ignited continues to burn; irritating vapors; Used as solvent, rocket fuel;	#3D (Dosi)	Standard		
Methyl isocyanate *(colorless liquid)*	Immediate	Minutes to hours	0.5 / 5	Poor	2.1 ppm -sharp pungent	Intermediate in manufacturing; reacts with H20 (don't use in fire)	Not available (liquid)	Not standard (liquid)		
Methyl mercaptan *(colorless gas; liquid <43F)*	Immediate	Minutes to hours	5.0 / 23	Poor	0.002 ppm-rotten cabbage (1 ppm odor fatigue)	From decayed organic matter – pulp mills, oil refineries; highly flammable; liquid burns/frostbite	#71	Not standard		
Nitrogen dioxide *(colorless gas/pale liq)*	Delayed (24-72 hrs)	MINUTES to hours	12 / 20	Poor	1 ppm - ?	Intermediate for manuf of nitric acid & sulfuric acid; explosives/rocket propellant	#9D (Dosi)	Not standard		
Nitric Acid *(colorless, yellow, or red fuming liquid)*	Immediate	Hours-days +	4.0 / 22+	Poor	~1 ppm-Choking, sweet – acrid	Used in many industries; Very corrosive to skin/mucous membranes as well as metals & other materials;	#80	Not standard		
Parathion *(pale yellow to brown liquid)*	Immediate but often Delayed (weeks)	Days to weeks	0.2 / 0.8	Good	0.04 ppm	Organophosphate (insecticide); similar symptoms (and thus treatment) as nerve gases; penetrates leather/canvas and plastics/rubber coatings	Not Available (liquid)	Not Available (liquid)		
Phosgene *(colorless – light yellow gas)*	Immediate & Delayed (LUNGS)	Minutes - HOURS	0.3 / 0.8-5	Good	0.5ppm-musty hay	Dye, pesticide, and other industries; history as war gas, corrosive/irritating	#16	Standard		
Phosphine *(colorless gas)*	Immediate & Delayed (LUNGS)	Minutes-hours	0.3 / 1.1-30	Good?	0.9 ppm-rotten fish, garlic	Insecticide; used in manufacture of flame retardants and incendiaries;	#7LA	Not Standard		
Sulfuric Acid *(clear colorless- brown oily liquid)*	Immediate	Hours, days	2.5 / 7.5	Good	Odorless (acrid taste)	Toxic fumes when heated Battery/dyes/paper/glue/metals industries; volcanic gas;	Not available (liquid)	Not Available (liquid)		
Sulfur dioxide; sulfur trioxide; -form sulfuric acid (*colorless gas)*	Immediate & Delayed	MINUTES to hours	>3 / 15-100	Good (SO2); Marginal (SO3)	1 ppm; pungent; metallic taste	Disinfectant and preserving in breweries and food/canning; textile industry; batteries	# 5L	Standard		
Toluene diisocyanate (2,4) *(water-white to pale yellow liquid, or crystals)*	Immediate	Hours - weeks	0.08 / 0.51	Good	0.4-2 ppm-sharp pungent	Skin irritant Polyurethane (wood coatings , foam), nylon industries;	Not Available (liquid)	Not Available (liquid)		

Symptoms *(from inhalation and dermal contact*

General Mild Health Effects:
- Nausea, dizziness; headaches; chills; coughing, choking, throat irritation

Specific and More Severe Effects:

Eyes:
- Irritation; tearing/watering; pain; intolerance to light (e.g. from Hydrogen Sulfide)

Skin (particularly if liquid contact):
- Irritation; burning; blisters (eg with Hydrogen Fluoride); vesiculation (nitric & sulfuric acid); dermatitis; and frostbite (e.g. Acryonitrile)

Respiratory Tract/Lungs:
- Breathing difficulty.respiratory distress; laryngeal spasm (e.g., from hydrogen chloride or hydrogen bromide); **pulmonary edema**

Chest/Heart:
- chest pain; tachardia (rapid heartbeat)

Systemic; Blood
- Cyanotic (blue skin from lack Oxy to blood) (e.g, from SO2, SO3, NO2, ethylene oxide):
- Convulsions/seizures
- Hemolytic anemia; kidney damage (Arsine) (sulfuric acid, hyrdazine)

Additional Chemical Specific Symptoms:

pink/froth sputum: Ammonia
mucoid frothy sputum: SO2,SO3, NO2
peculiar taste: Ethylene oxide
asphyxia: Acrylonitrile
metal taste & or garlic breath: Hydrogen Selenide
Miosis, sweating, ⇓ ACHe Parathion
Coffee-ground vomit – sulfur acid

Decontamination and Treatment

Decontamination:
- Flush (15 min) eyes & skin with water;
- Soap optional after initial water rinse

Treatment & Diagnostic procedures/ options:

Eye injuries:
- Saline wash
- Antibiotic ointments

Skin burns/blisters/irritation
- topical corticosteroids and/or antihistamines
- Inject MgSO4 at affected site (*Hydrogen fluoride)*

Breathing/respiratory distress:
- Oxygen & ventilation
- Prophylactic antibiotics
- Xrays
- Pulse ox/blood gas

NOTE: **avoid mouth to mouth** to protect against cross contamination

Broncospasm/Pulm Edema
- Inhale corticosteroids
- Beta2 agonist
- Endotracheal intubation

Hemolysis (e.g. Arsine):
- IV, transfusion

Seizures:
- Diazepam

Attachment 6

TREATMENT INFORMATION FOR POTENTIAL BIOTERRORISM PATHOGENS

PATHOGENIC AGENT	ANTHRAX (B. anthracis)– Pulmonary	ANTHRAX (B. anthracis)– Cutaneous	SMALLPOX Variola	BOTULISM Clostridium botulinum	PLAGUE Yersinia pestis
CLINICAL FEATURES	Flu-like symptoms Abrupt onset of respiratory failure 2-4 days Widened mediastinum on chest x-ray Gram positive bacilli in blood 2-3-days after onset Most treatable in prodromal phase	Pruritic papule, progressing to vesicle and eschar over 2-6 days; much edema Very rarely disseminates or fatal, if treated	Flu-like symptoms with 2-4 day prodrome of fever and myalgia Rash prominent on face and extremities, including palms and soles Rash scabs over in 1-2 weeks Rash onset is synchronous	If foodborne, GI symptoms Symmetrical cranial neuropathies No fever Blurred vision Possibly respiratory muscle paralysis or airway obstruction	Fever, cough, chest pain Hemoptysis Watery sputum with gram negative rods Bronchopneumonia on chest x-ray
MODE OF TRANSMISSION	Inhalation of spores	Direct inoculation into skin of face, arms, hands	Airborne, droplet, and contact	Ingestion of toxin-contaminated food	Infected fleas to man; aerosolized droplets
INCUBATION PERIOD	1 day-8 weeks (average 5 days)	1-7 days	7-17 days (average 12 days)	Foodborne: 12-36 hours Inhalation: 24-72 hours	1-3 days; pulmonary 2-8 days; flea-borne
COMMUNICABILITY	Person-to-person transmission highly unlikely		Contagious at onset of rash and remains infectious until scabs separate (about 3 weeks)	Not transmitted person to person	Transmitted person to person through droplets
INFECTION CONTROL PRACTICES	Standard precautions Private room not necessary		Contact and airborne precautions N95 respirator Private room or cohort** Discharge when noninfectious	Standard precautions No special discharge instructions	Droplet precautions Barrier masks Private room or cohorting Maintain 3 feet between infected and noninfected Discharge when noninfectious
POST EXPOSURE PROPHYLAXIS	Store clothing in plastic bags/handle minimally		Smallpox vaccine within 3 days of exposure	One single case raises concern of an outbreak	Decontamination of patients/environment may be

PATHOGENIC AGENT	ANTHRAX (B. anthracis)– Pulmonary	ANTHRAX (B. anthracis)– Cutaneous	SMALLPOX Variola	BOTULISM Clostridium botulinum	PLAGUE Yersinia pestis
	Shower with soap and water Instruct personnel in standard precautions Decontaminate surfaces with germicide/ sporacide **Consider antibiotic prophylaxis if credible exposure:** Ciprofloxacin 500 mg BID (20-30 mg/kg qd in 2 divided doses) Levofloxacin off-label, is acceptable in adults at least upfront Doxycycline 100 mg BID (5 mg/kg qd in 2 divided doses) Use of these in children and pregnant women will be weighed with risk of disease If documented susceptible, Doxycycline preferred Continue prophylaxis until B. anthracis exposure has been excluded (one to several days) If exposure is confirmed, continue prophylaxis for 60 days		Instruct exposed individual to monitor self for flu-like symptoms or rash for 7-17 days ** Vaccinate patients if they are cohorted and diagnosis is in question	Monitor suspects for respiratory compromise Decontamination not indicated	indicated if gross exposure Doxycycline 100 mg BID (5 mg/kg qd in 2 divided doses) Ciprofloxacin 500 mg BID (20-30 mg/kg qd in 2 divided doses) Continue prophylaxis for 7 days or until exposure excluded
TREATMENT	Cipro 500 mg BID (20-30 mg/kg qd in 2 divided doses) Doxycycline 100 mg BID (5 mg/kg qd in 2 divided doses) if cipro not available Use of cipro and doxy in children should be weighed with risk of disease If penicillin susceptibility is confirmed, penicillin 4 million units IV q 4 hr or continuous infusion		No specific antiviral available for smallpox Supportive care	Trivalent botulinum antitoxin available through state health department	Gentamicin 2 mg/kg IV load, then 1.7 mg/kg q 8 hr IV or streptomycin 1 gm q 12 IM or IV Alternatives: doxycycline 100 mg BID poor IV; OR chloramphenicol 500 mg QID poor IV Consult ID or health authority for length of treatment

Attachment 7

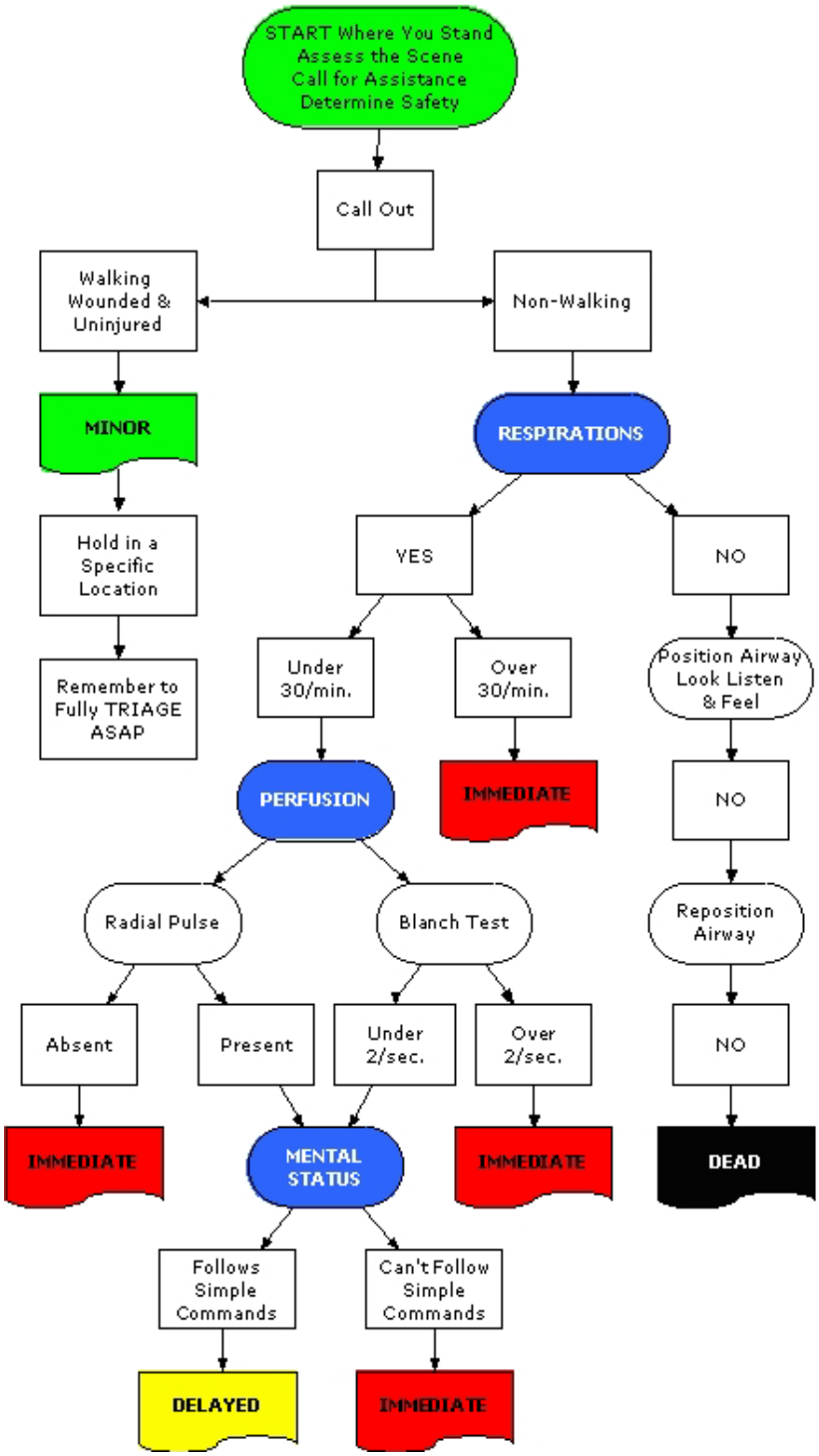
KNOWN OR SUSPECTED CHEMICAL WARFARE AGENTS

Symbol	Common Name
NERVE AGENTS	
GA	Tabun
GB	Sarin
GD	Soman
GF	GF
VX	VX
*A-230	*Novichok
*A-232	*Novichok
*Sub 33	*Substance 33
BLISTER AGENTS (VESICANTS)	
HD	Distilled Mustard
HN-1/2/3	Nitrogen Mustard
CX	Phosgene Oxime
L	Lewisite
MD	Methyldichloroarsine
HL	Mustard-Lewisite
PD	Phenyldichloroarsine
BLOOD AGENTS	
AC	Hydrogen Cyanide
CK	Cyanogen Chloride
SA	Arsine
SUSPECTED LIVER AGENT	
*FT	Fluorine Acetic Acid Derivative
CHOKING AGENTS	
CG	Phosgene
DP	DiPhosgene
Cl2	Chlorine
VOMITING AGENTS	
DA	Diphenylchloroarsine
DM	Adamsite
DC	Diphenylcyanoarsine
TEAR AGENTS	
CN	Chloroacetophenone
CNC	Chloroacetophenone in Chloroform
CNS	Chloroacetophenone and Chloropicrin in Chloroform
CNB	Chloroacetophenone in Benzene

Symbol	Common Name
	and Carbon Tetrachloride
CS	O-Chlorobenzalmalonitrile
*** Indicates agent is suspected to exist in the hands of our adversaries, but nomenclatures and names are not confirmed.**	

Attachment 8

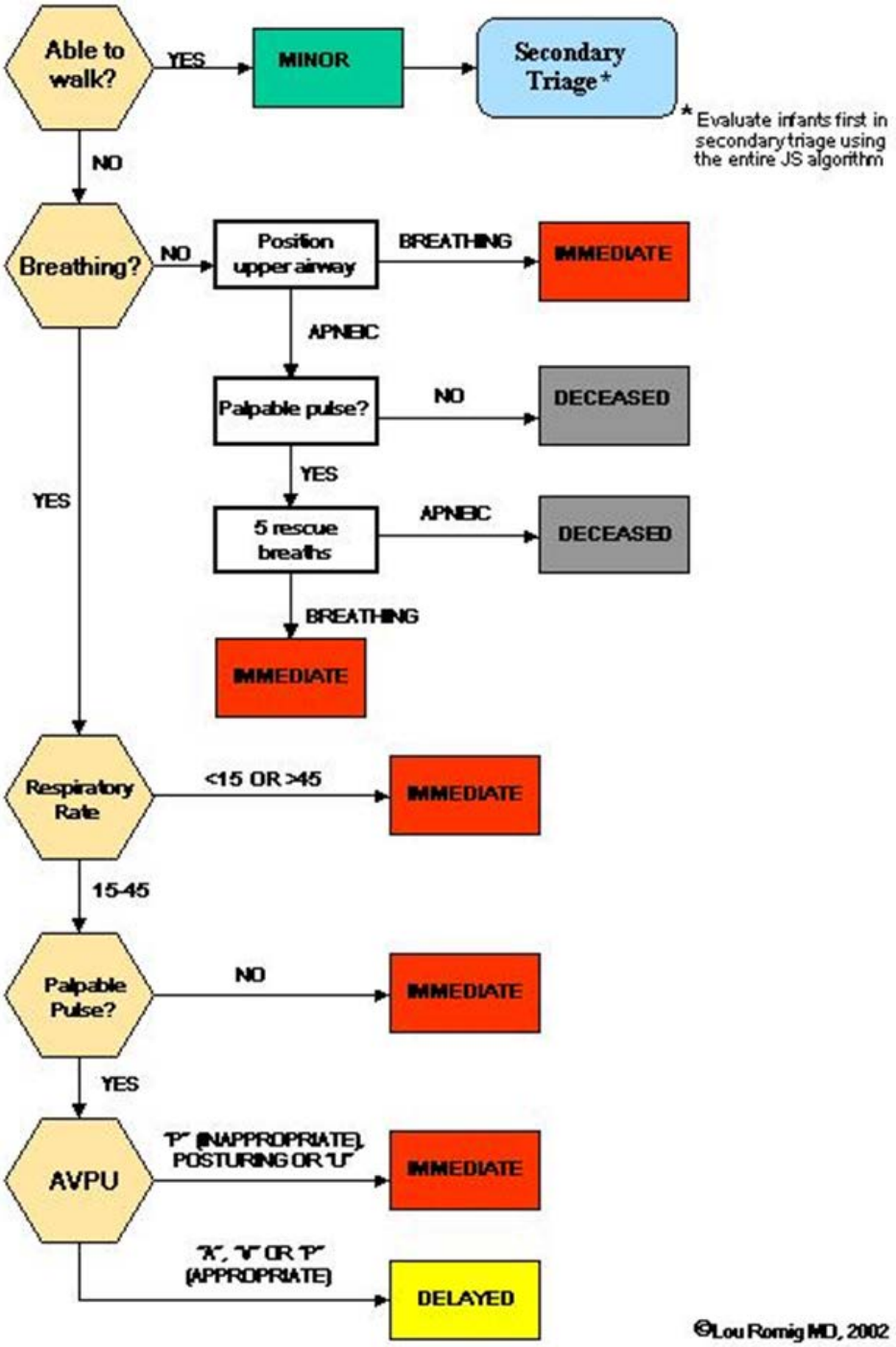
SIMPLE TRIAGE AND RAPID TREATMENT (START) SYSTEM



Attachment 9

JumpSTART PEDIATRIC MULTICASUALTY INCIDENT (MCI) TRIAGE

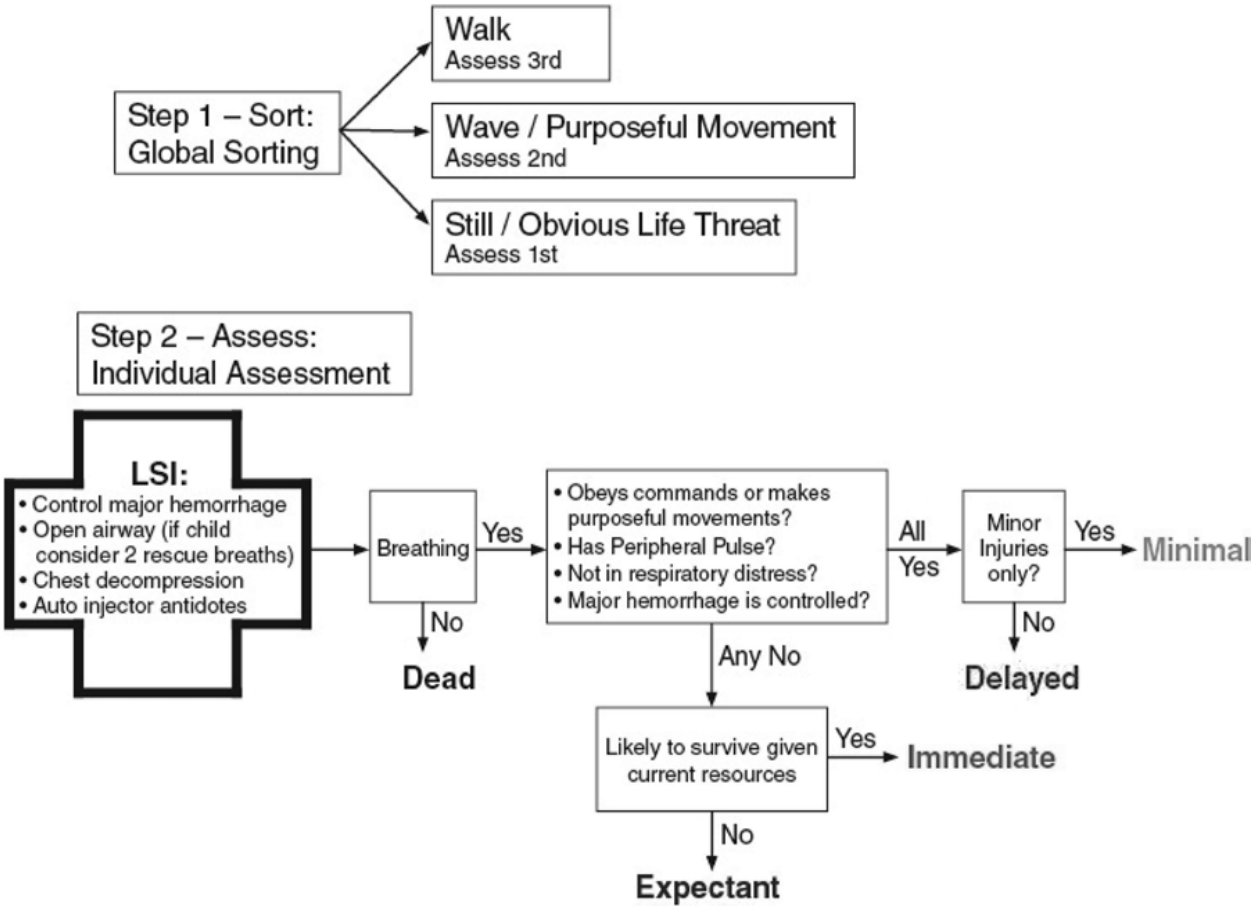
Use the triage algorithm below for pediatric casualties less than 8 years old or under 100 pounds.



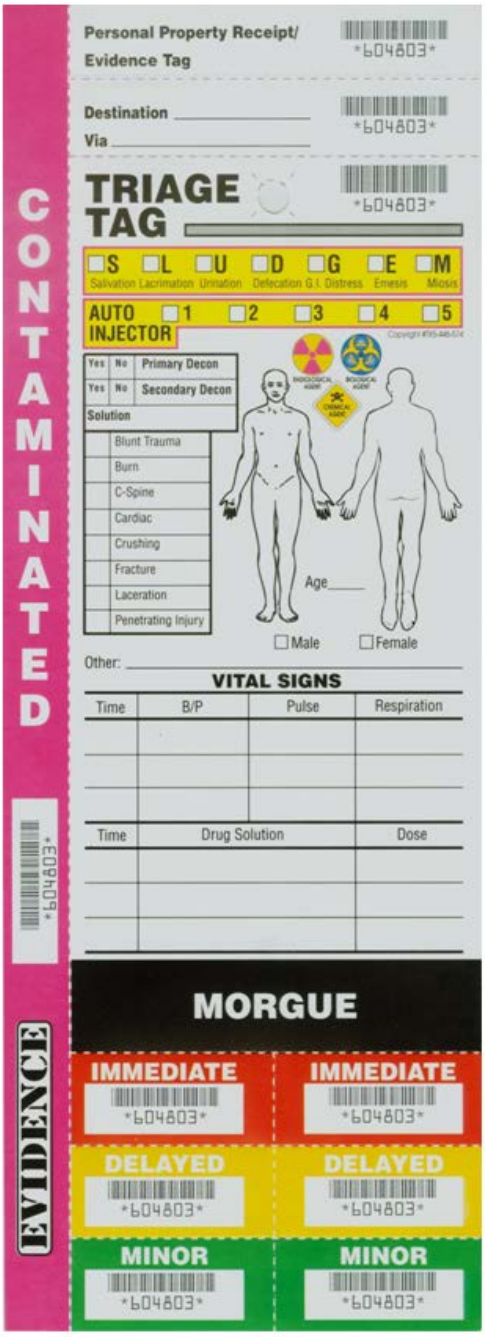
[1]

[1] JumpSTART Pediatric MCI Triage. Illustration. Lou E. Romig, MD. 2002. <http://www.jumpstarttriage.com>

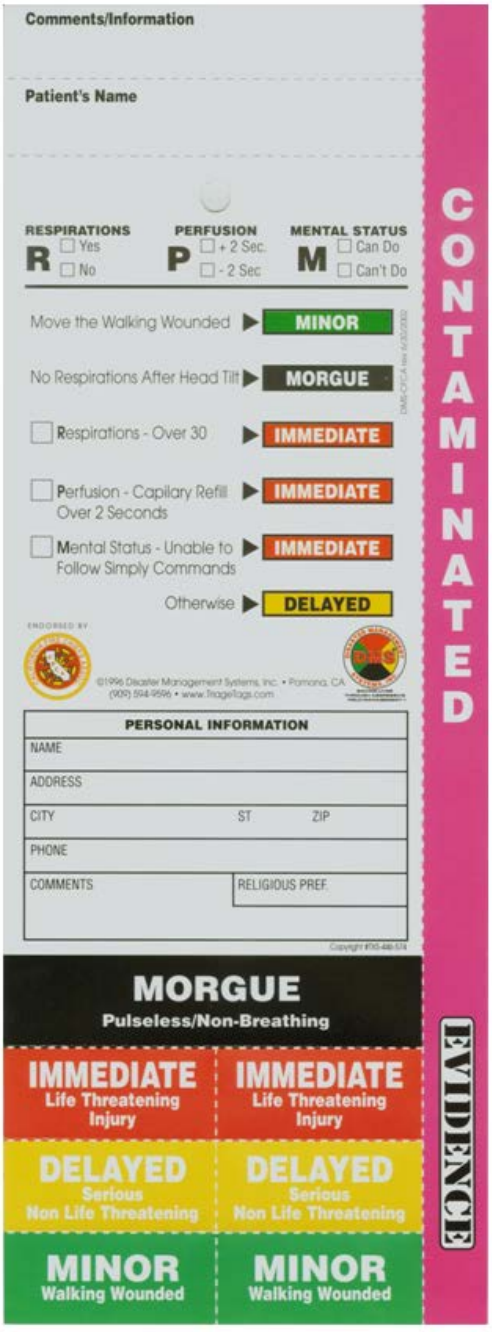
Attachment 10
Sort-Assess-Lifesaving-Interventions-Triage/Treatment (SALT) Triage System



Attachment 11
SAMPLE TRIAGE TAG WITH CONTAMINATION INDICATOR



Front



Back

Attachment 12

MC-CBRN ALLOWANCE STANDARDS (AS) AND ASSIGNED MCRP TEAMS

Allowance Standard	Assigned MCRP Team	MCRP Annex	Team Chief	RC/CC Code
886A In- Place Patient Decontamination	Patient Decontamination Team	Annex N	Patient Decontamination Team Chief	3H5882
886D Inpatient Medical Follow On	Nursing Services Team	Annex D, Appendix. 2, Tabs 1-3	Nursing Services Team Chief	3H5884
886E Pharmacy Response	Pharmacy Team	Annex D, Appendix 2, Tab 6	Pharmacy Team Chief	3H5885
886H Bioenvironmental Engineering	BEE Team	Annex F	BEE Team Chief	3H5888
886I Laboratory Biological Detection	Laboratory Team	Annex D, Appendix 2, Tab 5	LBDT Chief	3H5887
886J Field Response	Field Response Team	Annex D, Appendix 1, Tab 1	FRT Chief	3H5883
886K Triage	Primary/Secondary Triage Teams	Annex D, Appendix 2, Tab 9	Triage Team Chief	3H588T
886L Clinical	Clinical Teams	Annex D, App. 2, Tabs 1-3	Clinical Team Chief (Minimal, Delayed, Immediate)	3H588C
886M Manpower/Security	Manpower/Security Team	Annex H	Manpower/Security Team Chief	3H588I
886P Public Health	Public Health Team	Annex E	Public Health Team Chief	3H588P
IAW AFI 41-106, MCRP team chiefs must ensure MC-CBRN allowance standards are operationally maintained IAW AFI 41-209. Units are not expected to develop separate teams for MCRP and MC-CBRN operations.				
IAW AFI 41-209, medical unit commanders appoint a team leader for each MC-CBRN assemblage and ensure assigned assemblages are established and maintained. Team leaders ensure inventories of their assemblages are completed and provide input for annual budget submissions. Team property custodians use information system products and reports to manage materiel and conduct inventories.				