

STANDARDS RELATED DOCUMENT

AMedP-7.7-1

RDOIT PLANNING GUIDANCE DOCUMENT

Edition A Version 1

June 2016



NORTH ATLANTIC TREATY ORGANIZATION

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

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NATO LETTER OF PROMULGATION

1 June 2016

1. The enclosed Standards Related Document, RAPIDLY DEPLOYABLE OUTBREAK INVESTIGATION TEAM (RDOIT) PLANNING GUIDANCE DOCUMENT, which has been approved in conjunction with AMedP-7.7 by the nations in the Military Committee Medical Standardization Board, is promulgated herewith.
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3. This publication shall be handled in accordance with C-M(2002)60.

A handwritten signature in black ink, appearing to read 'Edvardas MAŽEIKIS', with a stylized, flowing script.

Edvardas MAŽEIKIS
Major General, LTUAF
Director, NATO Standardization Office

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CHAPTER 1 INTRODUCTION

1.1. GENERAL SCOPE OF THE DOCUMENT

STANAG 2529, covering document for AMedP-7.7, is related to "Rapidly Deployable Outbreak Investigation Team (RDOIT) ". The first edition of this STANAG has been promulgated on 29th October 2009.

RDOITs are intended to be used for the investigation of outbreak(s) or incident(s) where intentional use of biological agents (biowarfare, bioterrorism or biocrime) cannot be excluded.

AMedP-7.7 describes the operational concept for establishing RDOITs on a national or multinational basis. The present implementation guide has been prepared in order to help nations to bring it into practice.

This guide will be published as a Standards-related document attached to AMedP-7.7 and covered by STANAG 2529.

1.2. GENERAL CONSIDERATIONS

1. Infectious disease outbreaks are usually managed by MTFs, where prevention, diagnosis and treatment interventions are established and implemented. In contrast to other CBRN-incidents, the specific contribution of CBRN-units has to be considered minimal for identification or containment of bio-incident related outbreaks in humans. RDOIT missions therefore should be primarily considered as medical service specific missions.

However, RDOITs might also have the technical and scientific competence for investigation of any biological event according to SIBCRA standards (including environmental sampling and analysis).

2. According to AMedP-7.7, RDOITs should be characterized by their small footprint (in terms of manpower and materials) and the high level of expertise of their staff, in order to provide commanders with valuable advices.

RDOITs should be considered as small, highly specialised and autonomous teams which provide rapid military scientific support directly for operational decision-makers in an outbreak situation.

Basic tactical and logistical skills have to be covered by RDOIT leaders and team members.

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CHAPTER 2 SETTING UP A RDOIT

2.1. DEFINING THE LEVEL OF AMBITION

The final size and capabilities of the RDOIT must be clearly defined.

For that purpose, several options should be considered that will influence the operational use of the teams:

- a. single-nation team vs. multinational team:
as some nations cannot deploy all the necessary capabilities on the theatre, not being able or willing to provide all the requested competencies, they will consider building a RDOIT by bi- or multinational-cooperation. That would require additional efforts of training and certification, but will allow more NATO member nations to participate.
- b. medical or public-health related specialties:
 - academic qualifications are nation-specific. RDOIT staff should be chosen IAW national specificities in order to meet STANAG 2529 requirement
- c. technical capabilities:
 - this issue can be regarded as critical, as not all nations have the same vision of the RDOIT concept nor the same deployable capabilities. In particular, the deployable teams concepts can range from sampling-only teams relying on a reach-back laboratory, to a complete deployable laboratory, for which the reach-back only acts as a confirmatory lab
 - the range of agents detected/identified can be very variable. Nevertheless, capability for identifying the main BW-related bacteria, viruses and toxins is mandatory. The list of agents mentioned in AMedP-6(C) should be considered as a reference.

2.2. RDOIT STRUCTURE

RDOITs are supposed to be tailored to the mission. For that reason a modular structure is encouraged, although not stated in STANAG 2529. This will avoid sending useless staff or equipment on the field and can allow a progressive deployment, or a possible mission evolution, depending on operational requirements.

This modular concept will be applied both to the staff and to the equipment. Several "modules" corresponding to pre-identified capabilities should be defined; these modules should be autonomous regarding their specific technical requirements. The nature and limits of competencies of these modules will depend on the national specificities in terms of medical/public health specialties and training.

A modular approach will help establishing a multinational setting, different modules provided by different countries being combined, each participating nation only providing defined RDOIT modules, without needing to cover all RDOIT capabilities.

The modular approach can nevertheless generate organisational issues:

- the capabilities of each module as well as their interfaces have to be precisely defined to avoid duplicate efforts and conflicts
- each module should be under the responsibility of a designated coordinator, acting under the supervision of the RDOIT leader
- a complete RDOIT could be assembled from modules located on remote areas (or in different countries). A coordinate transportation of these modules to an assembly should then be organized prior to deployment.

A suggested modular composition is presented in Table 1.

Acronym	Module Name	Main functions
TL	Team Leader	Team commandment Liaisons and Reporting
CLI	Clinical examination	Human cases definition and confirmation Sampling strategy
LAB	Microbiological analysis	Presumptive identification of BW agents
EPI	Epidemiology	Confirmation of outbreak Epidemiological investigation (outbreak description and monitoring)
PH	Public health	Hygiene and control measures Food hygiene
PAC	Samples management	Infectious material handling (tracing, conditioning), packaging and conservation Samples conveying
VET	Veterinary medicine	Animal disease and mortality surveillance Animal sampling Food hygiene
VEC	Vector sampling	Sampling and surveillance of vectors Control measures
PAT	Pathology	Autopsies Forensics
LOG	Administrative and logistics support	Deployment planning and support Transportation CIS

Table 1: Suggested modular structure of RDOIT

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CHAPTER 3 RDOIT STAFF

3.1. STAFF DESIGNATION

Staff will include a team leader, medical service officers (and/or scientists), and laboratory technicians.

RDOITs staffing have to be done in accordance with the basic requirements for reduced team size and high level of expertise.

The following requirements should be fulfilled by the selected personnel:

- team leader with real operational experience and sufficiently high rank (COL; OF-5) to have the authority over the team, to efficiently represent the team to the Theatre Commander and to possibly interact with medical local or international organizations in the field
- staff with daily practice in their field of expertise, avoiding purely academic experts. As a basic principle, technical and professional skills of all RDOIT members will be at a high and state of the art level. All RDOIT personnel (both scientific and technical staff) should have up-to-date knowledge, technical skills, daily experience and 2 years practice in own field of work. Deployment of military staff personnel with an outdated, only theoretical professional background should be generally avoided. Nations have then to identify senior staff with both a regular practice and an operational training
- specialties should be chosen according to National professional qualification requirements to meet the STANAG 2529 ones. The mandatory and optional competencies are summarized in table 2
- RDOIT personnel should be clearly assigned to a specific module
- for operational reasons, recruiting military people should be the rule, civilian experts should be considered only on an exceptional basis when the appropriate specialties are not available among military staff.

In order to avoid staff oversizing, it can be considered sharing some ancillary tasks (e.g. packaging of samples, disinfection, chain of custody, driving) between team members, provided an appropriate training is ensured.

Since epidemiology and preventive medicine are not considered independent medical specializations in all NATO countries, these competences might also be covered by other RDOIT specialists (e.g.: infectious disease specialists, medical microbiologists, public health specialists).

The team leader will mainly be involved in mission organization and interactions with theater commandment and other CBRN assets. Whatever his professional background, he should therefore not be considered as being available for medical or other scientific tasks.

RDOIT competencies	
Mandatory	Optional
Epidemiology and preventive medicine	Entomology
Infectious diseases	Medical forensics / pathology
public health and food and water safety	Toxicology
Microbiology (bacteriology, virology, parasitology) including confirmed microbiological identification	Chemical and radiological expertise
Handling, packaging and shipping of infectious material	

Table 2. List of competencies for RDOIT

3.2. TRAINING

The staff should receive an adequate training:

- scientific training: the scientific training should not require a particular effort, as team members are supposed to be recruited on the basis of their daily practice
- technical training: a specific technical training is necessary, as it is likely that field deployable equipment will be different from that used in the home laboratory. Even if the equipment is similar, a training to work in field conditions is necessary
- operational training: staff should be trained in accordance with deployment requirements (tactical and logistic training). General military medical training of each RDOIT member should be at least at combat lifesaver level.
- multinational training: in case of multinational RDOIT, specific training sessions involving the different national elements must be arranged
- exercises: regular exercises should be part of the training. This could include realistic field deployment and proficiency testing.

CHAPTER 4 TECHNICAL AND ANALYTICAL CAPABILITIES

STANAG 2529 does not define techniques or equipment to be used by RDOITs. They can be very variable depending on the nation's capabilities and technical choices. Nevertheless, a minimal set of capabilities is mandatory to comply with STANAG 2529

4.1. SAMPLING

Due to its concept of operations, RDOIT will have to perform biomedical sampling on live (clinically ill or not) or dead people. This issue has forensic, moral and ethical aspects. Biomedical sampling should therefore be performed in accordance with medical regulations and will require certified personal (such as medical doctors, nurses, etc.).

Relevant human samples will depend on the symptoms and on the suspected agent. RDOIT should have the capabilities for any kind of human sampling: cutaneous or nasal swabs, blood, urine, tissues and lesions, CSF, stool.

Depending on the circumstances, it can be necessary to collect non-medical samples such as animals (in that case an adequate certification could be necessary), food, drinking water or environment.

In case of suspicion of vector-borne disease, the capability of vectors sampling requiring special capture means will be considered.

According to the particular organization of a given RDOIT, or on national specificities, sampling operations can be performed by each RDOIT module in his field of expertise, or by a specific component of the team.

4.2. SAMPLES MANAGEMENT, HANDLING, PACKAGING AND SHIPPING

Due to medical, forensic, operational and political possible implications, samples should be properly traced. Standardized procedures (e.g.: sample tracking form, pictures) ensuring unambiguous samples identification and documentation in order to guarantee chain-of custody should be in place.

In order to allow samples to be processed both in the field and to be sent to a reach-back laboratory, samples splitting and reconditioning will likely be necessary. That step must be completed before any further analytical step.

Proper equipment and procedures avoiding sample contamination during these operations are mandatory.

As not all the analytical determinations would be performed on the field, sending samples to a national reach-back laboratory is a mandatory capability for RDOITs. That would require capabilities for packaging samples containing infectious substances according to international regulations relevant for the intended mean of transportation (UN or IATA regulations).

Most of biological samples would have to be maintained at a controlled temperature, depending on the suspected biological agents or on the intended analytical process (e.g.: +21°C, +4°C, -20°C, -70°C or even -200°C). Adequate equipment and temperature tracking systems will therefore be required.

To comply with chain-of-custody procedures, some team members will have to be convey the samples up to the home nation, following international and local regulations. Depending on the national regulations, that mission would require specific qualifications.

4.3. ANALYTICAL

The NBC-AL described by STANAG 4632 is not in charge of analyzing human samples, deployable analytical means should therefore be provided by RDOIT. As rapid identification of the underlying disease agent is vital for a successful RDOIT mission, in-field provisional identification capabilities are essential. Even if a definitive identification of the causative agent will be provided by stationary reference labs, immediate RDOIT advice and recommendations have to be based on identification results from a deployable field lab.

RDOIT must be able to perform a rapid detection and identification of B agents in samples collected. Due the actual state of the art, RDOIT should have at least capabilities in molecular biology (including sample treatment or nucleic acid extraction, genomic amplification) and/or immunology (e.g. toxins immunological identification). These methods can be considered as the methods of choice, as they are suitable for use under limited laboratory conditions.

Due to the specific context of multinational operation, efforts must be done to make the analysis results acceptable by the nations involved. If applicable, it would be advisable to use diagnostic tests which have been previously validated for use as diagnostic methods in accordance with national legal requirements (e.g. European in-vitro diagnostics directive, FDA clearance).

Technical standardization of RDOITs (analytical tools evaluation and choice, proficiency testing) on a multinational level is not the goal of AMedP-7.7, however it may be achieved in the future.

In-field cultivation of biological agents can be considered, but would raise biosafety issues. That should therefore not be performed without direct benefits for the patients and the operations. At the present moment, the unique rationale for pathogen

cultivation appears to be performing bacterial antibiotic susceptibility testing. Molecular methods for that susceptibility assessment are not yet enough developed to replace phenotypic tests in the eventuality of an unusually resistant strain not responding to first-intention treatments.

4.4. MEDICAL ASSESSMENT

In order to confirm the existence of an outbreak and identify the causative disease, RDOIT must be able to perform clinical examination of the patients or exposed people.

It is likely that medical examination would be performed in local MTFs, but RDOIT will have to provide its own basic medical equipment and IPE.

If patients' examination is intended to be performed outside a regular MTF, additional equipment will be needed in order to set up a clinical examination facility compatible with ethical rules and with the eventuality of receiving civilian patients from the host nation.

4.5. EPIDEMIOLOGY

RDOIT will have to carry out epidemiological investigations. That will include confirming the reality of the outbreak and assessing its characteristics and evolution. RDOIT should therefore have the means for epidemiological data collection and analysis.

It should have an interface with the deployed health surveillance system, in order to:

- be informed of the evolution of the outbreak or incident having triggered its deployment
- provide inputs from the results of its investigations.

4.6. GENERAL EQUIPMENT

RDOIT must be autonomous for implementation of specific technical equipment. However, to reduce team footprint, general equipment for life support and CIS would be provided by the theatre.

It can be considered carrying specialist deployable light weight shelters or tents to allow setting up the RDOIT outside an existing facility (e.g. for implementation of the analytical laboratory).

All RDOIT modules should be equipped with appropriate personal protective equipment and should use biosafety procedures for safely working in circumstances where potentially contagious patients or animals or infectious samples are likely to be encountered.

4.7. TRANSPORTATION

RDOIT equipment must be compatible with the transport conditions encountered during NATO operations, such as transportation by airlift, and with the duration of transport.

Packaging must be robust and comply with the appropriate transport regulations. Sensitive goods as laboratory reagents requiring cold-chain will need a special attention.

These operational constraints will probably need development or purchase of dedicated equipment or packaging.

Whatever the route, the requirements for transportation must be precisely taken into account when setting up a RDOIT.

4.8. REACH-BACK LABORATORY (RBL)

Reach-back laboratory is considered as a key point for successful RDOIT mission.

RBL functions will be:

- receipt of samples from deployed RDOIT
 - organization of samples analysis for unambiguous identification of the agent.
- Depending of the suspected agent and national specificities, that could be performed by in situ analysis in the RBL institute, or by sending samples to an external reference laboratory while maintaining chain of custody
- support to the deployed team, including scientific advice and technical troubleshooting on equipment.

No formal requirement for RBL organization is included in AMedP-7.7. Nevertheless, it is necessary procedures should be in place so that deployed RDOIT team could easily reach reference scientists in the different fields of expertise.

It is suggested staff involved in RDOIT support will be clearly designated, will take part to exercises and will be kept aware of RDOIT operations.

CHAPTER 5 PRE-DEPLOYMENT ISSUES
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RDOITs are characterized by a short notice-to-move. To ensure operational effectiveness, people should be properly identified and trained, and equipment should be ready to deploy. Similarly any construction of teams by bi- or multi-national cooperation must be done well in advance of a contingency, preferably through formal international agreements.

5.1. RECRUITMENT OF TEAM MEMBERS

RDOIT members must be assigned by their country on the basis of a pre-defined catalogue of professional skills and experience. A completed professional training and/or specialization should be mandatory to ensure a high level of expertise. If applicable, respective professional certificates must be recorded.

A minimum of two years of experience in their respective field of work and in military environments is mandatory for all team members to ensure military functionality.

Recruitment of civilian members can be considered on a case-by-case basis. They should be given a minimal training for field operations and appropriate procedures should be in place in order to mitigate the lack of operational experience after deployment.

5.2. TRAINING

5.2.1. Operational training

Adequate operational training should be given (including physical training, buddy aid, use of communication means, etc.), depending on national or specific requirements.

Due to the specific missions of RDOITs, attention must be given to CBRN training, as team members will be supposed to be able to move and work in ROM conditions in potentially contaminated areas. Depending on the respective tasks of the team members, this training will range from basic CBRN self-protection to specialist training (e.g.: C and R detection, decontamination, etc.), according to AJP-3.8 and to national procedures.

5.2.2. Technical training

As members are supposed to be recruited on the basis of their practical experience and technical skills, they should not need specific training in their field of expertise.

However, equipment and protocols will be fairly different on the field from those encountered in the daily practice. Moreover, members are required to share some functions in order to reduce the team footprint.

For those reasons, people must be regularly trained to use RDOIT specific equipment; in particular, certification for the use of analytical techniques should be considered.

5.2.3. Collective training

Joint trainings of the team as a whole must be organized in order to allow group familiarization. This is particularly important for a team comprising staff from different institutes (or even different Nations).

Collective training should include:

- table-top exercises, mainly for evaluation of logistical issues
- deployment field exercises for revealing interface problems and difficulties in handling equipment and correct application of joint procedures
- proficiency testing, mainly for analytical module. The participation to national or international interlaboratory exercises (when available) is suggested

5.3. GENERAL PREPAREDNESS AND MOBILIZATION ISSUES

Personal records of people enrolled in RDOIT teams should be maintained up-to-date. The following points should be regularly checked:

5.3.1. Medical preparedness

All RDOIT members will be medically fit for worldwide operations. That should include:

- dental fitness
- appropriate immunization according to national regulations. It is recommended to establish a specific vaccination scheme for RDOIT staff. This scheme could include tetanus, diphtheria, polio, hepatitis A&B, meningococcal meningitis, MMR, yellow fever, typhoid fever, rabies, Japanese encephalitis, influenza, TBE, yellow fever, varicella, and (if available) anthrax, tularemia and smallpox.
- authorization to handle highly infectious pathogens (for laboratory staff, according to specific national requirements)

It is recommended that a copy of the personal medical file or a suitable summary of relevant medical conditions should be carried by each RDOIT member.

5.3.2. Administrative preparedness

The administrative preparedness would be crucial especially if RDOIT members are recruited from institutes not regularly sending people on the theatre.

An official passport should be provided to each member, and its validity regularly checked. A procedure to ensure rapid visas clearance (if required) should be in place

Military security clearances must include at least NATO-secret for team leader and RDOIT scientists and NATO-confidential for technical staff to allow access to classified reports or deployment orders in an outbreak scenario

A sufficient number of members (at least one per module) must have a military driving license.

5.3.3. Military equipment

All personnel have to be equipped with appropriate personal equipment (uniforms, sleeping bags, etc.) for the relevant climate zone prior to RDOIT deployment.

5.4. RDOIT READINESS

RDOITs (or RDOIT modules) should be provided by the respective Nation for six months. For a longer duration, a procedure for staff turnover must be in place, so that individual personnel would not be assigned for more than six months.

The team leader (and national modules coordinators) and the logistics support module are responsible for preparing team deployment, including specific transportation issues for heavy or sensitive equipment and preparation of documents (such as passengers lists, shipper's documents, customs forms, passports, vaccination certificates,...).

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CHAPTER 6 DEPLOYMENT ISSUES

6.1. RDOIT OPERATIONS PHASING

The different phases of RDOIT operations are defined as follows:

6.1.1. RDOIT designation

Once a designated RDOIT is incorporated in the force generation process, all the previously described tasks must be completed in order to ensure the 48-hours delay for deployment.

6.1.2. Warning phase

At this stage, depending on CBRN situation assessment, the RDOIT mission will be defined, and participating modules and staff designated.

RDOIT will then be put on alert to begin the operational process, in order to allow quick deployment. That would include operational planning, equipment prepositioning on an assembly area (including sensitive goods requiring a cold chain) and individual preparedness of team members.

The operational planning will include:

- preparation of a plan of operations
 - definition of transportation plan from home nation to the theatre
 - identification of staging areas and definition of support facilities for deployment (e.g.: MTFs, laboratories), if available
 - identification of needs for administrative and logistics support from theatre.
- Amongst them, transportation will be a critical issue to allow sending samples to the RBL, and arrival of technical supply or replacement staff.

At this point, it is expected that RDOIT leader and POC at the reach-back laboratory are kept informed of developments on the field, through their parent HQ.

6.1.3. Decision for team deployment

RDOIT deployment will be initiated upon request through the official chain of command according to the triggering conditions detailed in AMedP-7.7.

At this stage, RDOIT members will be activated and an official mission order will be issued. The 48-h delay for deployment will start from that moment.

People in the RBL involved in RDOIT support have to be simultaneously activated.

6.2. ON-THEATRE OPERATIONS

Upon arrival on the theatre of operations, the team (at least team leader and logistician) will be briefed about the situation and the practical conditions for RDOIT operations according to the intended plan of operations. The fulfilment of logistical needs for RDOIT operation will be checked.

Liaisons with the medical chain and with the other CBRN assets on the field will also be initiated shortly after arrival.

It is likely RDOIT will have to operate far from the reception airport. The field commander will have the responsibility for onward movement of the team to the intended area of final deployment. Depending on the particular circumstances (nature of the event, logistical constraints) a progressive deployment of the RDOIT modules can be considered, according to the investigation needs.

RDOIT capacity of operation mainly depend on the availability of specific technical consumables (such as sampling materials, or laboratory reagents) and will be significantly influenced by the mission-specific needs (e.g. broad-range screening vs. cases confirmation of an already identified disease) and the efficiency of chain of supply.

The duration of a RDOIT field mission cannot be defined in advance and will depend on the nature of the event to be investigated. The criteria for considering the mission completed can neither been predefined, but will include confirmation of the outbreak, identification of the causative agent, and implementation of effective control measures.

CHAPTER 7 DEPLOYMENT ISSUES

7.1. CARE FOR RETURNING STAFF

Post mission support (e.g.: medical evaluation, individual equipment reconditioning) has to be conducted according to AMedP-39 or Nations national regulations.

7.2. RETURNED RDOIT EQUIPMENT

Returned equipment will be reconditioned as fast as possible and according to the local regulations and specific needs for future redeployment.

7.3. DEBRIEFING, LESSONS LEARNED

Each RDOIT mission will end with a debriefing of all team members. Debriefing of the team as a whole should be preferred against several national debriefings. A post-mission report will be generated and forwarded to the national authorities, to the other RDOIT-providing nations and to the NATO JALLC.

There should be a protected time (possibly 7 days) for RDOIT members to complete any outstanding work and conduct briefings to interested parties, at the end of the deployment.

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ANNEX A RDOIT MODULES DESCRIPTION

Hereafter are described the main characteristics of RDOIT modules in terms of roles, equipment and interrelations (input, output). This is to be used as a general guidance, as the final structure and equipment of the RDOIT can be variable and will depend on the mission. Acronyms for modules names are those presented in Table 1.

All modules are coordinated by the TL and supported by LOG module. The primary situation assessment from data provided by the theatre authorities during pre-deployment phases will be used to drive the team's first actions. Further specific actions of a given module will be driven by regular situation assessments conducted by the TL.

A.1. CLI MODULE

role:

- clinical examination of patients or suspected exposed people
- clinical samples collection

staff: 1 medical doctor (infectious diseases), 1 medical assistant (nurse, paramedic, licensed lab technician etc.)

equipment:

- equipment for common medical practice. It is expected heavy equipment (e.g.: examination table, X-ray) will be available from local MTFs
- clinical sampling equipment: as samples taken for outbreak evaluation will not be different from usual clinical samples, this equipment needs not a specific description. The nature of samples to be collected will depend of the clinical presentation and the agent suspected, and should be determined according to analytical procedures to be carried either by the LAB module or by the reach-back laboratory

output to:

SAM for samples transportation,
LAB for samples analysis

A.2. VET MODULE

role:

- examination of ill or exposed animals
- sample collection on animals including vertebrates vectors when necessary (e.g.: rodent traps, dissection equipment)

staff:

1 veterinarian, 1 veterinary assistant

equipment:

standard clinical and sampling equipment. As for the CLI module, samples will be collected in coordination with LAB

output to:

SAM for samples transportation, LAB for samples analysis.

A.3. LAB MODULE

role:

- analysis of samples collected by other modules for at least provisional identification of the causative agent of the outbreak
- preparation of samples for transfer to the reach-back laboratory. That could include operations such as: serum or plasma separation, sample partitioning or reconditioning, ...

staff:

1 medical officer (microbiologist or medical biologist) + laboratory technicians

equipment: (the exact nature of the laboratory equipment will depend on the technical choices for theatre identification)

- containment equipment for handling of potentially highly infectious samples
- sample treatment (e.g.: nucleic acid extraction) and inactivation (e.g.: fixation), depending on the analytical process
- analytical equipment for molecular biology (PCR or real-time PCR) or immunology (ELISA, immunofluorescence)
- conservation equipment for heat-labile reagents and consumables
- optionally: culture equipment suitable for highly infectious agents identification and characterization

input from:

CLI and VET modules for samples. From other modules (EPI, TL) for pathogen research orientation

output to:
samples-providing modules, EPI

A.4. EPI MODULE

role:
assessment of the epidemiological situation: outbreak description and monitoring

staff:
1 epidemiologist + 1 data entry staff

equipment:
data collection and analysis software and communication tools

input from:

- CLI, PAT and VET for clinical data, agents identification from LAB.
- local MTFs and CBRN, eventually through the TL

output to:
CLI, VET, LAB modules for refining their action, PH for defining hygiene and control measures

A.5. PH MODULE

role:
advice to theatre authorities for hygiene and control measures implementation

staff:
1 medical officer (preventive medicine and hygiene)

equipment: not specific

input from:
CLI, VET, EPI

output to:
TL, MedAD, host-nation health authorities

A.6. PAC MODULE

role:

- management of samples (registration, documentation and tracking)

- samples transfer during RDOIT field operations, e.g. between CLI, VET and SAM module
- samples packaging and conveying to the reach-back laboratory

staff:

technician(s) trained for dangerous pathogens packaging and shipment

equipment:

- standardised class 6.2 packaging equipment dangerous goods
- tools for samples registration and documentation (e.g.: dedicated forms, samples-management software, camera)
- temperature tracking equipment for sample shipping-controlled containers for biological samples

inputs:

crude samples from CLI and VET, conditioned samples from LAB module

A.7. VEC MODULE

role:

vector sampling and identification when a vector-borne disease is suspected.

staff:

1 entomologist

equipment:

- capture equipment for vectors (e.g.:nets, light traps, etc.)
- laboratory equipment for vectors preservation, identification (e.g. binoculars) and dissection

output to:

LAB (collected vectors for pathogen detection), EPI (presence of specific vectors)

A.8. PAT MODULE

role:

forensics expertise on deceased people. In particular, searching for evidences of a suspected infectious disease and collection of relevant samples

staff:

1 medical officer (pathologist) + 1 medical assistant

equipment:

as for CLI, it is expected main equipment will be provided by local MTFs. However, small single-use equipment for autopsy and sampling should be provided by the RDOIT.

input from:

CLI and EPI (nature of the disease suspected)

output to:

LAB (samples), CLI and EPI (identification of disease-specific signs)

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ANNEX B REFERENCE DOCUMENTS

STANAG 2037 - National military strategies for vaccination of NATO forces - AMedP-23

STANAG 2235 - Pre and post deployment health assessments AMedP-4.8

STANAG 2462 - NATO handbook on the medical aspects of NBC defensive operations (biological) AMedP-6 Vol II

STANAG 2478 - Medical Support Planning for Nuclear, Biological, and Chemical Environments.

STANAG 2481 - Medical information collection and reporting

STANAG 2522 - Specialist NBC defence capabilities - ATP-3.8.1 Vol II

STANAG 2535 - Deployment health surveillance - AMedP-4.1

STANAG 2873 - Concept of Operations of Medical Support in Nuclear, Biological and Chemical Environments -AMedP-7.

STANAG 2954 - Training of medical personnel for NBC defence operations

STANAG 3854 - Policies and procedure governing the air transportation of dangerous cargo

STANAG 4359 - NATO handbook for sampling and identification of biological and chemical agents - AEP-10

STANAG 4632 - Deployable NBC analytical laboratory

Dangerous Goods Regulations (DGR) 53rd Edition. International Air Transport Association 2012

Guidance on regulations for the transport of Infectious Substances. World Health Organisation 2009

SRD AMedP-7.7-1