NORDEFCO ADL 2025 Conference (Hyvinkää, Finland)

Implementing Advanced Distributed Learning in Vigorous Warrior 2024 and Clean Care 2024 Exercises

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"Committed to the health of our forces"

1. Introduction

2. Vigorous Warrior exercise

3. ADL Component in the Pre-exercise Training Phase

4. ADL Pre-exercise Training package for VW24/CC24

5. Implementation and Learning Management System

6. Analytics Dashboard by Jefferson Institute

7. Evaluation and Lessons Learned

Introduction

2020: NATO MILMED COE began developing standalone online courses

➤ These courses were designed to support existing trainings

2022: The focus expanded to exploring how ADL could enhance multinational exercises, specifically in the context of VW24/CC24

Vigorous Warrior exercise

- **Biennially organized** exercise series by NATO MILMED COE.

- Training in a **multinational environment**

- **Addresses** some of the most pressing challenges in the military medical field.

- **Its primary objective** is to enhance efficiency and interoperability of military medical support systems by simulating a complex, joint operational environment.

- NATO and Partner Nations

- Article V scenario

- Concept development, experimentation, and the **testing of interoperability skills** with other nations.

2011 2013 2015 2017 2019 2021 2023 2025 2026

TTX

EXERCISE CLEAN CARE
2024 BAKONY - HUNGARY

PHOTO BY 1LT ÁKOS SZÉNÁSI - NATO MILMED COE

AIM

- **HELP** the pre-exercise preparation of the TA/EXCON
- **REDUCE** the time spent instructing the Training Audience in the Academic Phase of the exercise
- **IMPROVE** the quality of learning

ADL PRE-EXERCISE
TRAINING PACKAGE FOR
VIGOROUS WARRIOR 2024
AND CLEAN CARE 2024
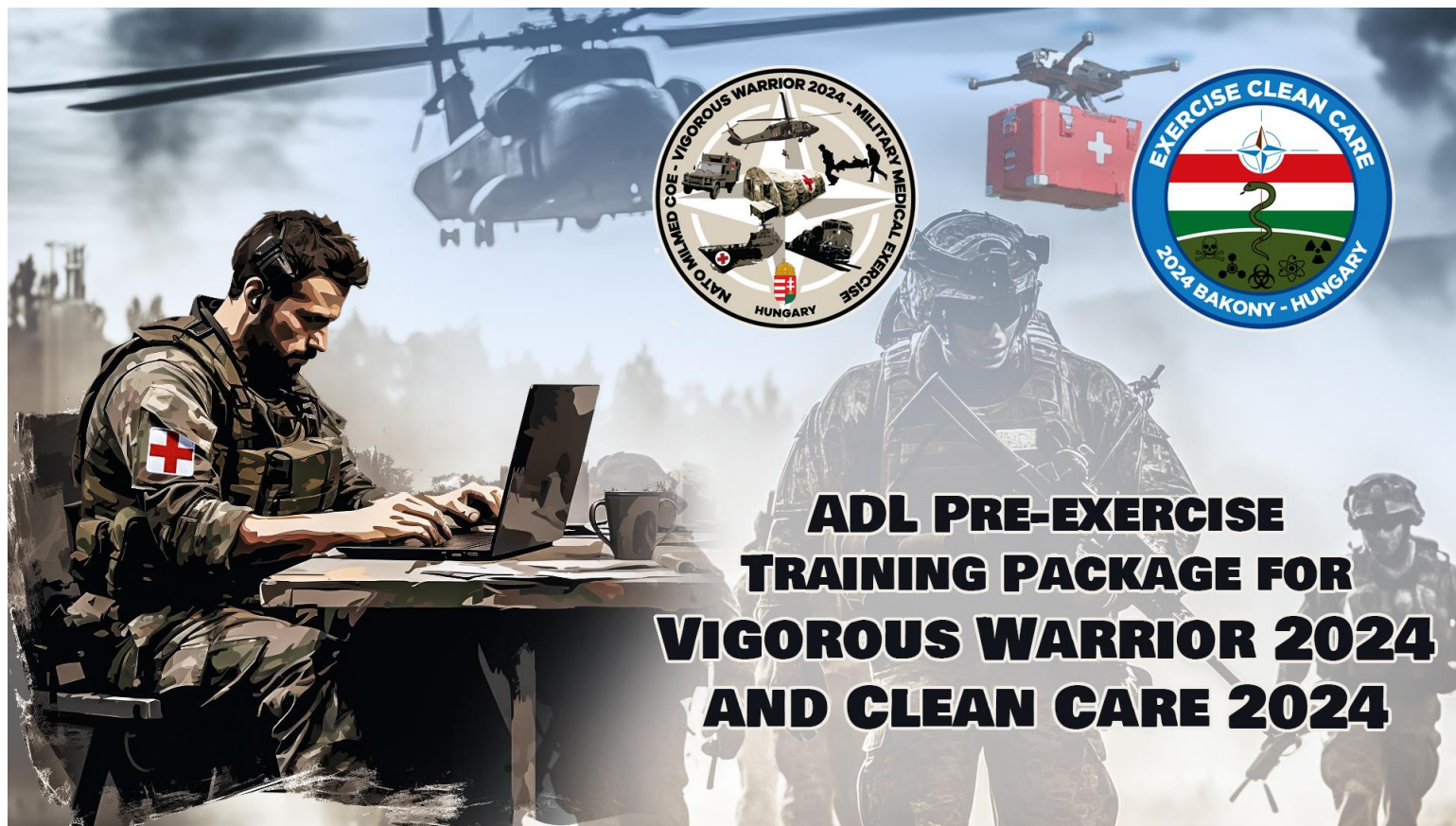
The project was supported by U.S. Army DEVCOM with the Jefferson Institute

Jefferson Institute served as a liaison for US Army DEVCOM for coordination with the NATO MILMED COE

Support to the existing VW24/CC24 ADL line effort included:

1. assistance with the design and development of pretraining e-learning
2. assistance with collection of standards-based learning analytics data
3. visualization of these analytics in an exercise dashboard

THE NATO ADVANCED DISTRIBUTED
LEARNING HANDBOOK

Guidelines for the development, implementation and evaluation of
Technology Enhanced Learning

NATO Training Group
Task Group for
Individual Training & Education
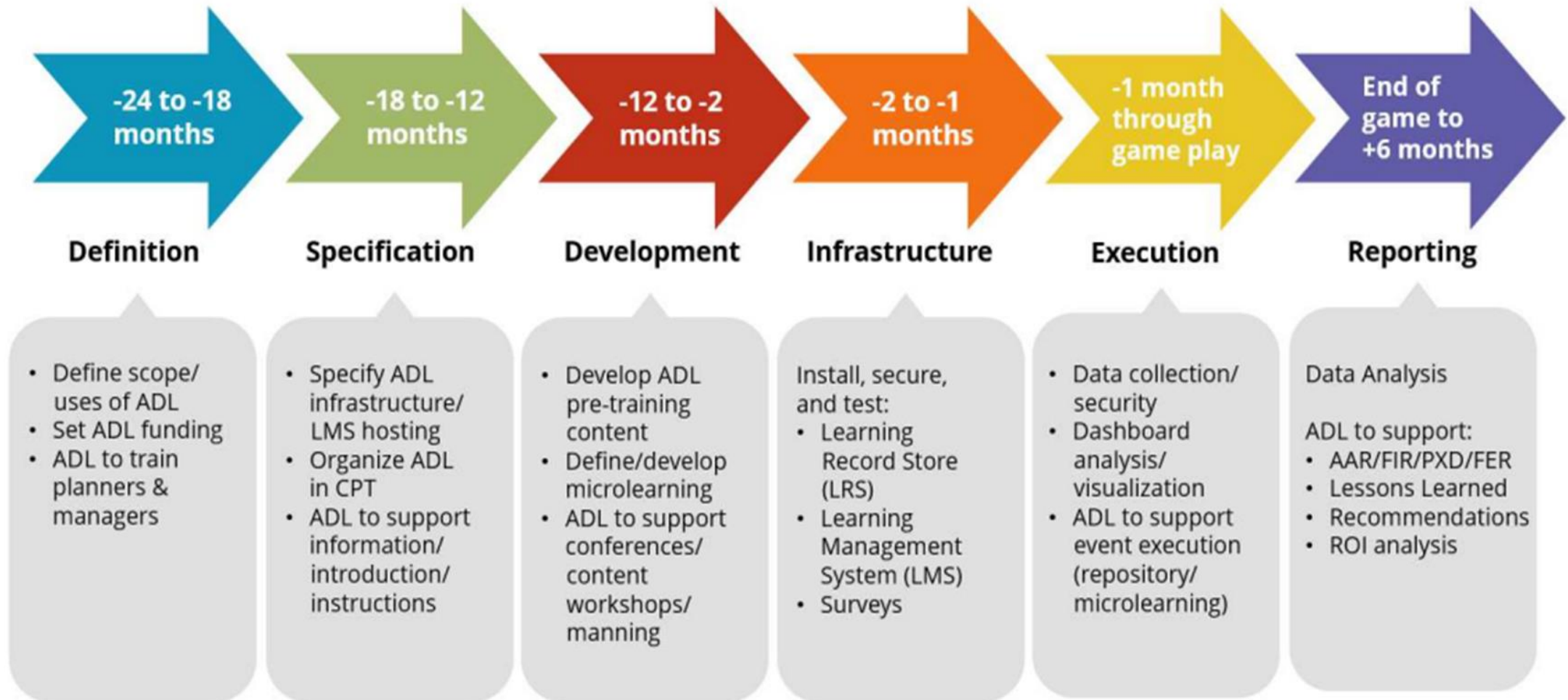Developments (IT & ED)

Version 2019

ADVANCED DISTRIBUTED LEARNING
IN EXERCISES
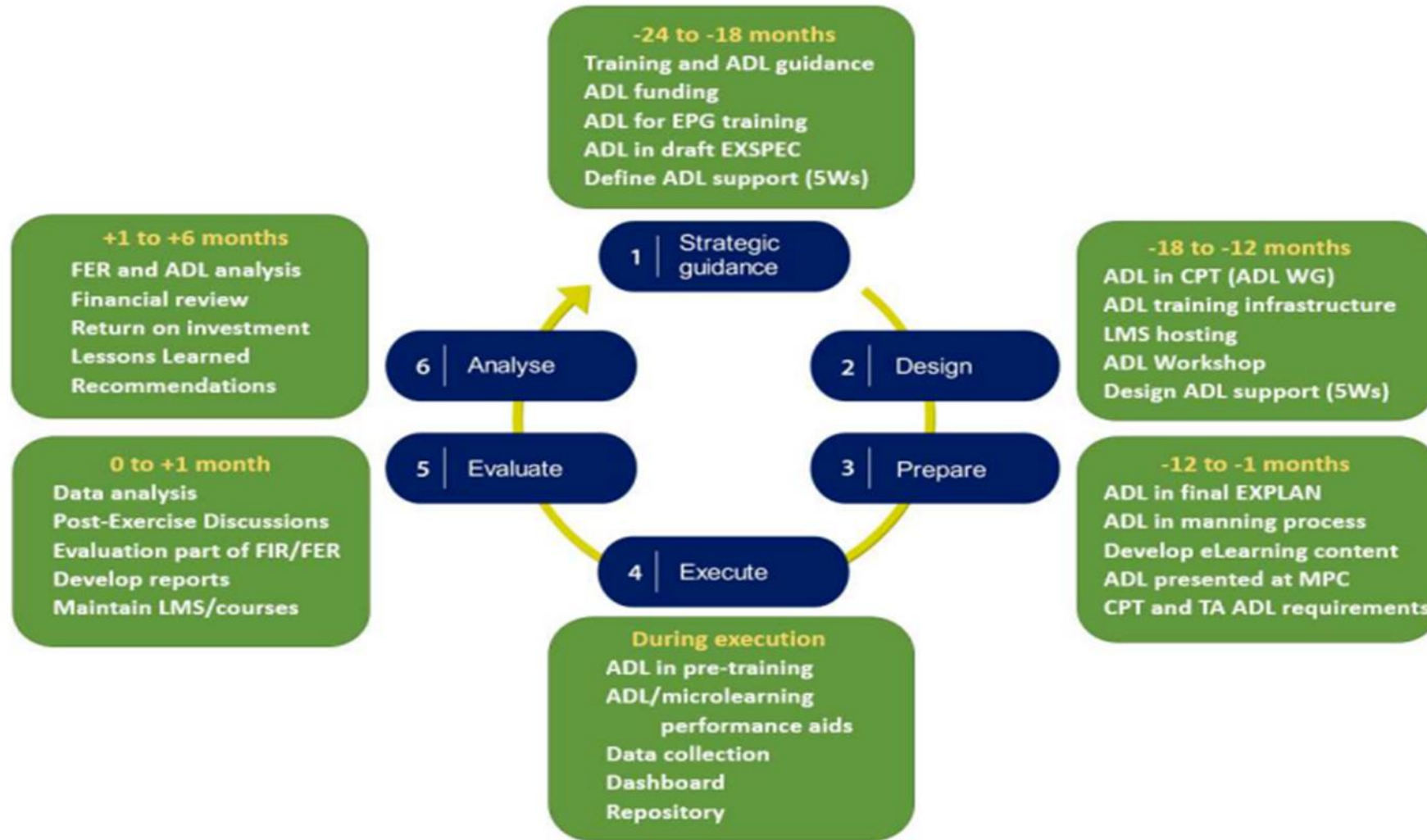
Annex to NATO ADL Handbook

Version 2022 May

1

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Definition (-24 to -18 months)
- Define scope/ uses of ADL
- Set ADL funding
- ADL to train planners & managers

Specification (-18 to -12 months)
- Specify ADL infrastructure/ LMS hosting
- Organize ADL in CPT
- ADL to support information/ introduction/ instructions

Development (-12 to -2 months)
- Develop ADL pre-training content
- Define/develop microlearning
- ADL to support conferences/ content workshops/ manning

Infrastructure (-2 to -1 months)
Install, secure, and test:
- Learning Record Store (LRS)
- Learning Management System (LMS)
- Surveys

Execution (-1 month through game play)
- Data collection/ security
- Dashboard analysis/ visualization
- ADL to support event execution (repository/ microlearning)

Reporting (End of game to +6 months)
Data Analysis

ADL to support:
- AAR/FIR/PXD/FER
- Lessons Learned
- Recommendations
- ROI analysis

ADL in exercises – ADL production and execution timeline

-24 to -18 months
Training and ADL guidance
ADL funding
ADL for EPG training
ADL in draft EXSPEC
Define ADL support (5Ws)

1 | Strategic guidance

-18 to -12 months
ADL in CPT (ADL WG)
ADL training infrastructure
LMS hosting
ADL Workshop
Design ADL support (5Ws)

2 | Design

+1 to +6 months
FER and ADL analysis
Financial review
Return on investment
Lessons Learned
Recommendations

6 | Analyse

5 | Evaluate

3 | Prepare

-12 to -1 months
ADL in final EXPLAN
ADL in manning process
Develop eLearning content
ADL presented at MPC
CPT and TA ADL requirements

0 to +1 month
Data analysis
Post-Exercise Discussions
Evaluation part of FIR/FER
Develop reports
Maintain LMS/courses

4 | Execute

During execution
ADL in pre-training
ADL/microlearning
        performance aids
Data collection
Dashboard
Repository

ADL in exercises – Specific ADL assets for each step of the exercise process

„Need to know" topics

1. Introduction to VW24 and CC24
2. EXEVAL
3. Medical Lessons Learned
4. CD&E
5. Medical Simulation
6. Case Managers
7. Observers and Trainers
8. MEDEVAL

„Enabling" topics

1. ADL 037 Introduction to NATO
2. ADL 169 Improving Operational Effectiveness by Integrating Gender Perspective

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Introduction to VW24 and CC24

Course · 8 Lessons
Updated at Jun 6, 2024

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Concept Development and Experimentation

Course · 7 Lessons
Updated at Jun 4, 2024

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MEDEVAL

Course · 10 Lessons
Updated at Mar 19, 2024

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Medical Simulation

Course · 9 Lessons
Updated at Mar 14, 2024

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Medical Lessons Learned

Course · 8 Lessons
Updated at Mar 14, 2024

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Exercise Evaluation (EXEVAL)

Course · 6 Lessons
Updated at Mar 14, 2024

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Observer/Trainer

Course · 7 Lessons
Updated at Mar 14, 2024

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Case Managers

Course · 5 Lessons
Updated at Mar 14, 2024

Location of Exercise VW24 and CC24

EX LOCATION
Bakonykút
Training Area

PÁPA AIRBASE
FW/RW
APOD

EX ORG LOCATION
Várpalota
Mandulás

Hajmáskér
Rail Head (RH)
RPOD

EX ORG LOCATION
Balatonakarattya

Central Training Area, Bakonykúti region

Bakonykúti region is located in the eastern part of the Hungarian Defence Forces Central Training Area.

NATO Medical Lessons Learned Process

NATO has a well-established Lessons Learned Process that encompasses various domains, including military medicine. The process involves the *identification, collection, analysis,* and *dissemination* of lessons learned from NATO operations, exercises, and activities.

ⓘ Within the context of medical aspects, the NATO Medical Community plays a crucial role in documenting and disseminating lessons learned related to healthcare and medical support in military operations.

THE IMPORTANCE OF MEDICAL LESSONS LEARNED

Recognize the problem!

Lessons Learned!

ENDORSEMENT and TASKING

ACTION BODY
Implements remedial actions and monitors the process

COMEDS

TASKING

COMEDS Steering Group

• Endorse remedial action

Exercise Objectives VW24   +

Exercise Objectives CC24   +

Why are the exercises conducted in Hungary?

Hungary is a Framework Nation of the NATO MILMED COE and all Vigorous Warrior exercises have been conducted in one of the Sponsoring or Framework Nations, as it facilitates a seamless co-organization between NATO MILMED COE and the Host Nation. Eleven years ago, **the first VW was held in Hungary, and in 2022 Hungary hosted the special tabletop exercise.** Hungary, as a Framework Nation, is highly dedicated to the Vigorous Warrior exercises, therefore, Hungary serves as the host for the exercise in 2024 as well.

Add a caption

The Vigorous Warrior 2024 & Clean Care 2024 will be held in the **Hungarian Defence Forces BAKONY Combat Training Centre.**

Photo by LT Ákos SZÉNÁSI (NATO MILMED COE)
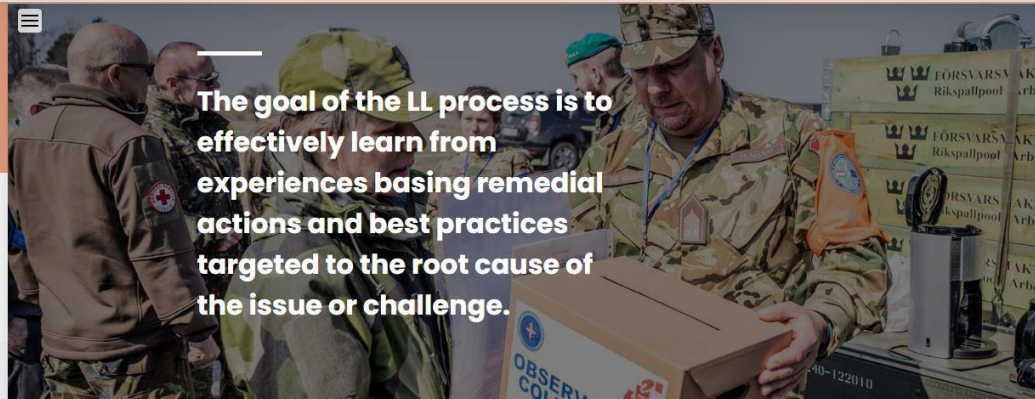
Photo by LT Ákos SZÉNÁSI (NATO MILMED COE)
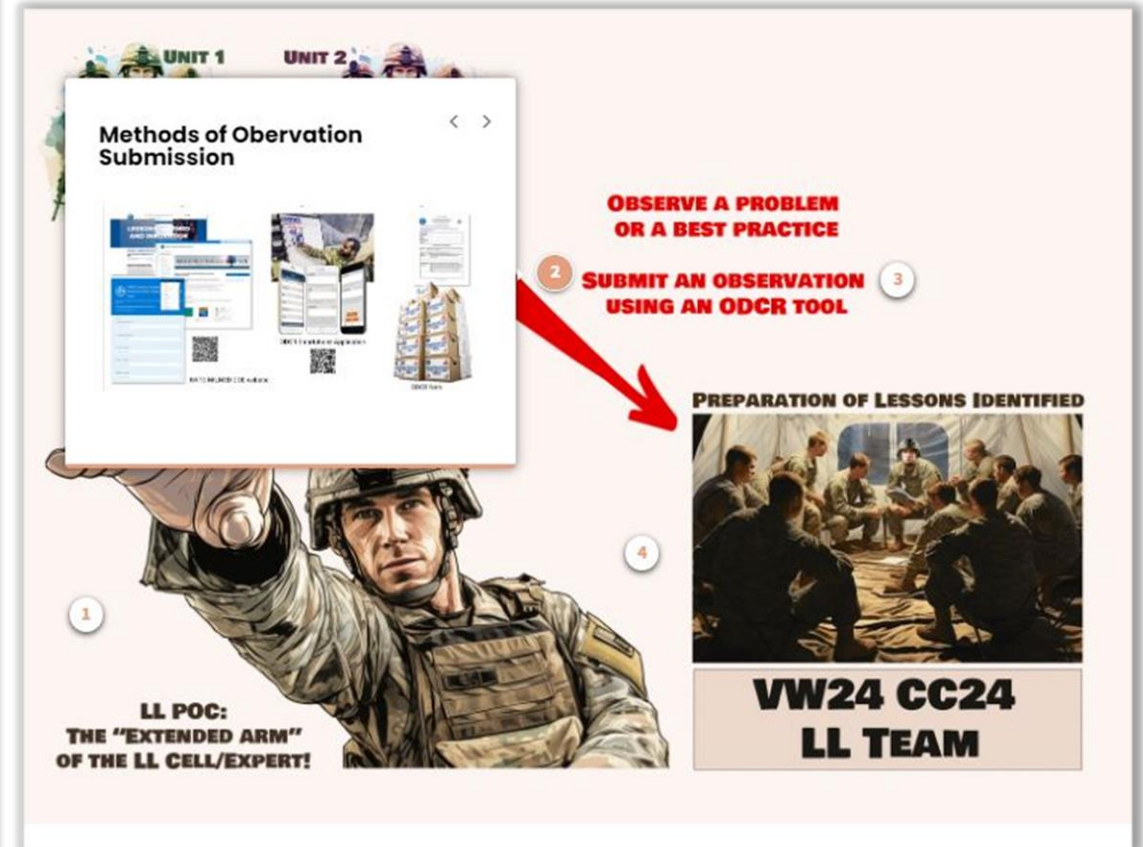
Lesson 7 of 7

Key Takeaways

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Now let us summarize the main points of this course...

1. **Exercises are a vehicle to develop opportunities for transformation.** They allow NATO to capture requirements, and test and validate new concepts, procedures, systems, and tactics. They enable military and civilian organizations deployed on the ground to work together to discover new ways of working, to test hypotheses, and to verify that forces are mission-ready through a certification process.

2. Experiments will build upon **"best practices"** (what works) and **"lessons identified"** (what needs improving) to inform the broad program of transformational activities within HQ SACT.

3. **Common examples of experimenting in exercises include** the validation or discovery of new organizational structures or processes, the testing or demonstration of software/systems, and the introduction of new training.

Congratulations!

You have completed this course.

Lesson 2 of 5

General information about Case Managers

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The key to the realism of large-scale medical exercises lies in the introduction of Case Managers.
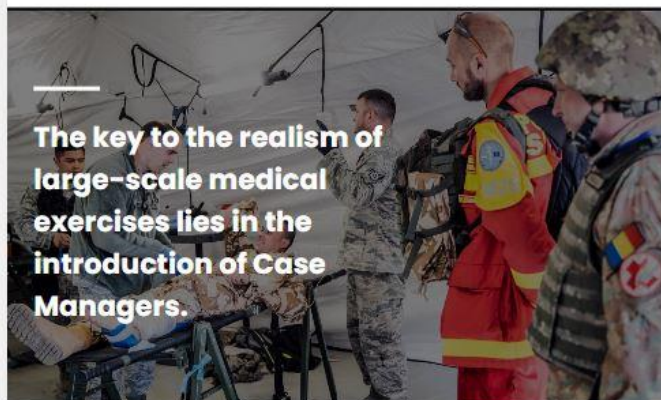
They include physicians, for example, anesthesiologists, surgeons or emergency specialists, who **tell the roleplayers what injuries they have, how they should behave, and what vital signs they should exhibit.** Then the roleplayer "gets" the injury: wounds are painted on shoulders, blood is displayed on chests – moulage is everywhere. Then, **the Case Manager follows each patient**: as the military medical staff treats the roleplayer, so do their parameters and their condition change.

Case Manager definition

1. Is a **SUBJECT MATTER EXPERT** in the medical condition of the simulated patient they are facilitating. As a minimum, the case manager should be familiar enough with the medical issues to be able to provide realistic updates on the condition of the patient to players in a way that makes it easier for them to "suspend disbelief" and play along.

2. Is an **ACTING COACH**. The simulation modality often used in large-scale military medical exercises is live actor/moulage. Thus a case manager's role is also to coach the actors so that they deliver a realistic performance.

3. Is familiar with the overall objectives of the exercise thus keeping the patient flow in line with those objectives.

4. Is familiar with the skill of **DEBRIEFING** and providing **FEEDBACK**. Can engage players in a discussion on the management of the patient, both concerning medical care provided, and process.

5. Is also an **OBSERVER**. A Case Manager, while focusing on the medical reality of the EX, is still a valuable set of eyes and ears for the Observer/Trainer (O/T) and should be prepared to engage and provide information to the O/T.

Photo by LT Ákos SZÉNÁSI (NATO MILMED COE)

Photo by LT Ákos SZÉNÁSI (NATO MILMED COE)

Photo by LT Ákos SZÉNÁSI (NATO MILMED COE)

Getting started

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Before you start this course...

It should take you **approximately 15 minutes** to complete the course.

Add a caption

You can pause your learning progress at any time. You can also use the chapter menu to navigate different course sections and track your course progress/completion.

Course Format

1. **Evaluation and EXEVAL**
2. **Military Exercise Evaluation**
3. **EXEVAL vs Lessons Learned**
4. **Check your knowledge**
5. **Key Takeaways**

EXEVAL Team

Photo by LT Ákos SZÉNÁSI (NATO MILMED COE)

It consists of the:

- EXEVAL Director
- EXEVAL Deputy
- EXEVAL Team members: experienced officers, NCOs with a comprehensive understanding of Medical Support in a NATO Article 5 Scenario.

The EXEVAL Team is marked with an armband clearly stating EXEVAL and should not be considered game players or Training Audience. They are everywhere during the exercise to thoroughly **observe and gather information and have access to all segments of the exercise**. They may just observe and they may ask you questions. They will otherwise not interfere.

You are more than welcome to share information and opinions with the EXEVAL team.

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Experimentation

Experimentation is a controlled investigation to discover information, confirm or disprove a hypothesis, or formally validate (part of) a solution.

Experimentation is a key part of the CD&E process used to support the development and validation of a concept. It provides an objective approach to explore problems and assess potential solutions. The evidence generated from experimentation is used to inform and justify the concept's development and can eventually support its approval and application as a capability.

ⓘ Experimentation helps to find the path and improve the chances of a transformational idea resulting in success.

CONTINUE

Aim of the Experiment:
The aim is to investigate team members experience of evolvement and performance during high-fidelity live simulation training, and identifying key indicators needed to support team cohesion and performance. The second aim is to investigate the acceptance of a novel virtual reality model as support for preparedness of teams in decision making, leadership and communication.

Objective:

- To identify key indicators supporting team cohesion and performance
- To assess the acceptance of a virtual reality model to enhance preparedness of interprofessional teams

Interviews with team members at Role 2 Hospitals 4-7th of May 2024, Arranged session 3rd of May 10am to 17:00pm in collaboration with Exconicus, providing the opportunity for teams to test virtual reality model.

5. Patient tracking and patient flow interface +

6. Patient Management during MASCAL assisted by simulator +

7. Psychological burden of medical exercise and its connection to rea +

8. Bio-responsiveness Augmentation of Role 2B +

9. CBRN Fatality Management +

10. Prolonged Care of Casualties in CBRN Environment +

Medical experiments in VW24 and CC24

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Exercise Specification of Vigorous Warrior and Clean Care 2024 clearly states in their Exercise objectives that CD&E is an integral part of the LIVEX.

Exercise objective 5:

To facilitate transformational activities and capability development through concept development and experimentation (CD&E).

CD&E/ Transformational activities

CD&E as part of Transformational Activities **is a main tool of NATO's transformation** by enabling structured development of creative and innovative ideas into viable solutions for capability development.

In this domain, MILMEDCOE has become one of the leading expert organization within NATO by being responsible for preparing and coordinating experiments with medical implication in Vigorous Warrior (VW) exercise series.

- Educational material was available 6 weeks prior to the exercise.
- The courses were self-paced, they did not require active instructor engagement.

To achieve the **completion certificate,** participants had to finish seven modules, which required **3–4 hours.**

Comprehensive eLearning Service:

- Course Delivery
- Learning Progress Tracking
- Customizable Areas
- Forum Functionality
- Reference Material Upload
- Data and Statistics Extraction

The JADL platform's modern interface and robust functionality ensured an accessible and user-friendly experience for all participants. Self-paced learning modules were accompanied by progress indicators and completion certificates, motivating users to engage with the content thoroughly.

- **Administered** through the JADL platform.

- **Focused** on key aspects of the user experience.

- The survey design featured single-choice questions, 5-level Likert scale ratings, and optional comment sections for qualitative feedback.

Post-course Evaluation Survey
ADL Pre-exercise Training Package for VW24 and CC24

Please take a few moments to evaluate the ADL Pre-exercise Training Package by completing the survey. We value your feedback and use it for improvement.

* Required

1. Name - OPTIONAL

Enter your answer

2. Nationality *

Enter your answer

Results

- **Overall opinions** of the eLearning platform were **very positive**, its usefulness and quality were highly appreciated

- **Technical issues** with JADL eLearning platform

- Participants indicated **requirements for more content in the platform**
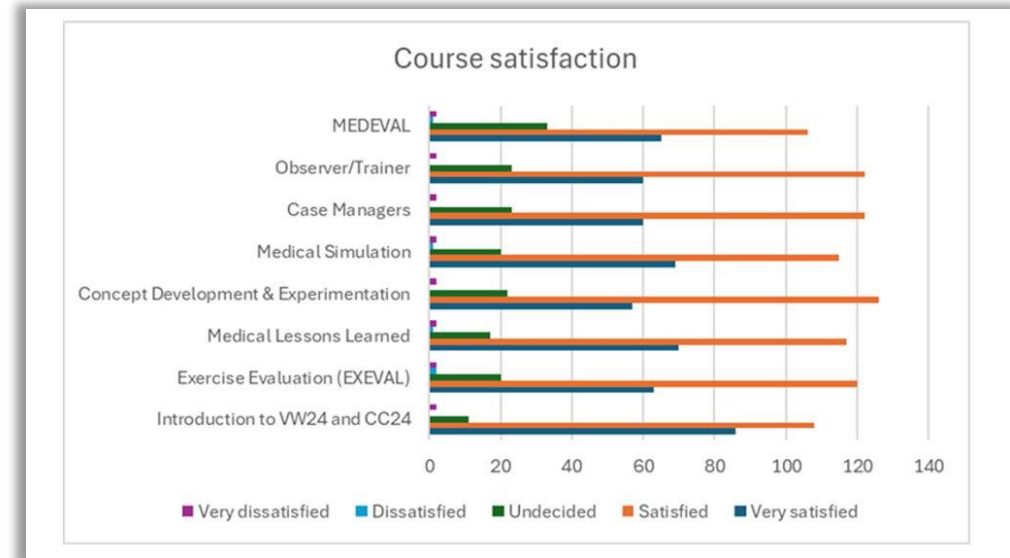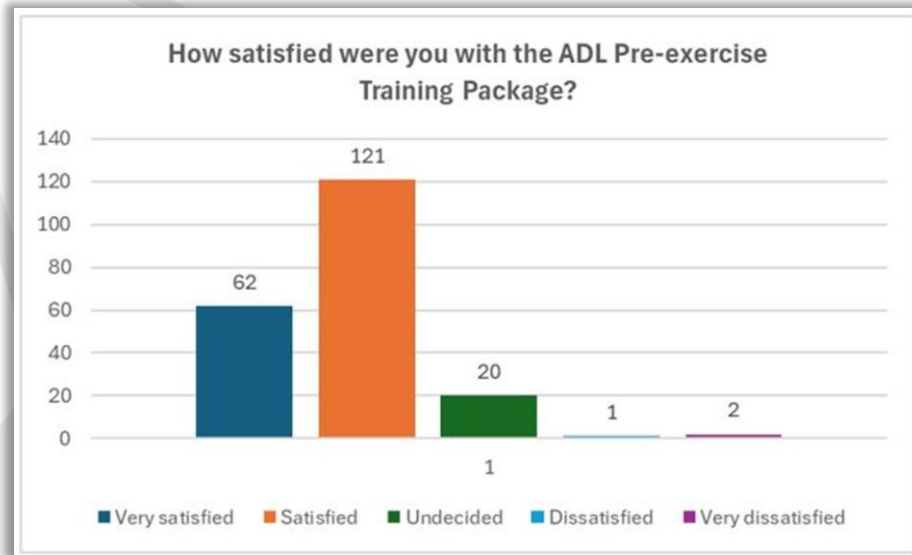
Integrate

- *ADL should become an integral component of the planning process*
- *Establish an ADL WG that should appoint* representatives to the EG
- *ADL WG should work closely with the Exercise Evaluation (EXEVAL) team*

Expand and optimize

- *Mandatory and optional microlearning courses*
- *Aligning eLearning efforts with Training Objectives*
- *Careful consideration is needed to limit the number of required courses*

Improve strategic communication

- *The added value of ADL must be communicated early and clearly*
- *The requirements and expectations should be formalized in official exercise documents, such as the Exercise Specification Document*

Measure training effectiveness

- *Incorporate mechanisms to evaluate the training effectiveness of ADL courses*
- *Collecting Data on participant performance*

Thank you for your kind attention!

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