

# Biological & Toxin Weapons Convention

*The treaty and assistance in case of BW use*

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Part 1

# DISEASE: DELIBERATE & CIVILISATIONAL CHALLENGE

# What is biological warfare?

Intentional application against *humans, animals* or *plants* for hostile purposes of

- *Disease-causing micro-organisms* (e.g., bacteria);
- *Other entities that can replicate themselves* (e.g., viruses, infectious nucleic acids and prions)
- *Toxins*, poisonous substances produced by living organisms (and their synthetically manufactured counterparts), including
  - micro-organisms (e.g., botulinum toxin),
  - plants (e.g., ricin derived from castor beans), and
  - animals (e.g., snake venom)

# The BW threat spectrum

- War scenarios
- Terrorism
- Criminal acts
  
- Each will consider and have the availability of different biological or toxin agents, with different degrees of pathogenicity or toxicity
  - Depends on *intent*
  - Depends on *availability*
  - Depends on *technical skills* and *structure* of the organisation

# Alternative uses of biological agents

- **Against humans**
  - Potential for mass casualties exists, but not necessarily most likely scenario as agents difficult to acquire
  - Incapacitation
    - Wider range of agents available
    - Easier to collect from nature and cultivate
    - Delivery uncomplicated
    - Lower requirements for skills and functional specialisation
- **Against animals and plants**
  - Economic impact
  - Agents easier to acquire; less of a risk to perpetrator
  - Easy to deploy
    - Many vulnerabilities in the food chain
- **Economic and societal disruption**
  - Goal is to disrupt functioning of utilities, commercial enterprises, public agencies
  - Wider range of biological agents available
  - Exploitation of fear and lack of adequate preparations
  - Effectiveness of *hoaxes*

# Disease and warfare

- Before the 20<sup>th</sup> century, more people died from disease than from combat operations in war
  - Poor sanitary conditions; low quality nourishment
  - Poor knowledge of disease propagation
  - Limited forms of disease treatment; key types of medication not discovered until well into the 20<sup>th</sup> century
- Exploration and confrontation of cultures
  - Early civilisational expansion (from about 8,000 BCE)
    - Repeated colonisation waves into the Pacific Islands by southeast Asian populations
    - Expansion of early societies in Antiquity
    - Trade routes ranged from east Asia to west Europe on Eurasian continent
  - Peoples living in isolation from Eurasian cultures were suddenly confronted with diseases they had never encountered before, e.g.
    - Indian civilisations of Central and South America following the Spanish conquests
    - Populations on Pacific Islands: for instance, *lilabalavu* in Fiji following the wrecking of the US schooner *Argo* in 1800. The series of epidemic outbreaks that followed reduced the Fijian population from about 210,000 to 85,000 in 1921.

# Deliberate disease

- Rare before knowledge of disease propagation
  - Some acts definitely contributed to epidemics, but may not have been intended to spread disease
  - Exploitation of prevailing conception of disease, but would not be considered biological warfare today
- Early intent came with understanding that disease invades the body
  - (Alleged) distribution of blankets infected with smallpox virus among American Indian tribes in the Great Lakes area (1763)
  - New Hebrides (Vanuatu):
    - 19<sup>th</sup> century: Freebooters would capture a native until he/she caught measles or whooping cough and then reintroduce them into their villages, leading to mass die-offs of natives.
  - Apparently an act of reprisal for refusal to subjugate to colonials or pirates
- Modern biological warfare
  - Acts of sabotage in World War 1
  - Major preparations during 1930s and World War 2
    - Japanese use and experiments during World War 2
  - Major BW programmes during the Cold War

# Perspectives on the BW threat

- Use of biological and toxin weapons has so far been extremely rare
  - Since 1975, < 100 persons have been killed through deliberate disease
    - Most cases involved toxins
    - Most cases were criminal in nature
  - Major terrorist BTW programmes have been total failures (Rajneesh Cult; Aum Shinrikyo)
  - However, anthrax letters (USA, 2001) demonstrate the potential for low-casualty — high-impact events
  - Most bioterror events do not involve actual agents (hoaxes)
- We have arrived in a post-proliferation stage
  - Biotechnology (equipment, processes, products, knowledge) has become universal
  - Developing countries (Cuba, India, Indonesia, Iran, Malaysia, Pakistan, etc.) have become original sources of innovation and, in some cases, technology exports



# Nature poses the greatest challenge

- Infectious diseases are responsible for
  - > 13 million deaths annually ( $\approx$  number of fatalities in the Twin Towers attacks on 9/11 every two hours)
  - $\frac{1}{4}$  of all deaths worldwide
  - $\frac{1}{2}$  of all deaths in developing countries
- 1918: Spanish Flu caused more fatalities worldwide than World War 1
- Emerging diseases: SARS; West Nile Virus; Avian flu (H5N1 and H7N9), Zika
- AIDS in Africa: threat to social fabric of societies
- Ebola in West Africa
  - Pointed to shortcomings in international assistance
  - Impacted on consideration of implementation of BTWC Article VII on emergency assistance
- Economic impact of non-human disease outbreaks:
  - Swine Fever outbreaks in Taiwan (1994 – 2001)
  - Foot and Mouth Disease outbreak in the UK (2001)

# Modern biological weapons and warfare: Confluence of several trends

- **The first wave: The scientific understanding of disease**
  - Three critical characteristics of disease uncovered in 19<sup>th</sup> century:
    - Infectious disease is caused by an agent (pathogen)
    - The agent can be transmitted from one living organism to another (infectiveness)
    - One agent is responsible for one disease only
  - Manipulation of the pathogen
    - Isolation
    - Cultivation (while maintaining its infectiveness)
    - Production in large quantities
    - Effective dissemination
- **The new industrial revolution**
  - Biotechnology & informatics are the driving force
  - Major impact on all aspects of life in developed and developing countries
  - Biotechnology has accelerated development of societies (emerging economies)
  - Convergence with other scientific disciplines (e.g., chemistry, informatics, etc.)
- **Military application of new scientific and technological developments has become commonplace (= exploitation of 'dual-use' potential)**
  - Pressures to exploit new biology and biotechnology for military goals will grow
  - Many arguments in favour framed in humanitarian discourse (e.g., so-called non-lethal weaponry → convergence with chemistry for incapacitating agents)

# Potential for future weapon development

- Biology and biotechnology allow for the manipulation of disease on the sub-cellular level (genes, biochemical processes, etc.)
  - May make the effects of biological agents more controllable
  - May produce agents with higher infectivity or ability to overcome medical defences
- Interference with the natural immune system rather than dissemination of pathogen may become new mode of attack
- Improvements in analytical and production processes:
  - Higher quality & higher quantities in smaller units
  - Technologies become common place (classroom equipment; bio-hacker laboratories)
  - DNA data exist as digital information on computers and in databases
  - Additive manufacturing (3D-printing) to construct synthetic tissue (incl. pathogens)
- Possible application of synthetic biology and nanotechnology in agent design or dissemination technology, as well as in defence, protection and prophylaxis
- May contribute to novel ways of agent dissemination
  - Aerosol techniques
  - Targeting of specific genes

Part 2

# THE NORM AGAINST BIOLOGICAL WEAPONS

# Main prohibitions against BW

- **1925 Geneva Protocol**
  - Prohibits the use in armed conflict of chemical and biological weapons (CBW)
- **1972 Biological and Toxin Weapons Convention (BTWC)**
  - Comprehensive ban on development, production and possession of biological weapons (BW) and toxins
  - Ban on BW use in Geneva Protocol + Final Declaration of 4th Review Conference (1996)
- **1993 Chemical Weapons Convention (CWC)**
  - Comprehensive ban on development, production, possession, and use of chemical weapons (CW)
  - The definition of chemical weapon also includes toxins
    - Links up with the BTWC

# The BTWC as keeper of the norm

- **Strong norm**
  - Today, no state admits to BW programme & holdings
  - Quasi universality:
    - 183 States Parties → 3<sup>rd</sup> most successful weapon control treaty in force after CWC and NPT
    - Role in customary international law
  - States Parties committed to BTWC:
    - Assessment of the state of the norm + updating at RevCons
    - Annual activities since 3<sup>rd</sup> RevCon (1991)
- **Intrinsically weak**
  - No formal verification & compliance enforcement mechanisms
    - No international institution for implementation oversight and enforcement
    - Implementation Support Unit (ISU) supportive of State Party activity, but no functional substitute for international organisation
    - Inability to incorporate verification tools into BTWC
      - CBMs, VEREX (1992–93), Ad Hoc Group (1995–2001)
  - Slow process to deal with new challenges (scientific & technological developments; new actors)
  - On-going frustration over unmet expectations in areas of security or development

Part 3

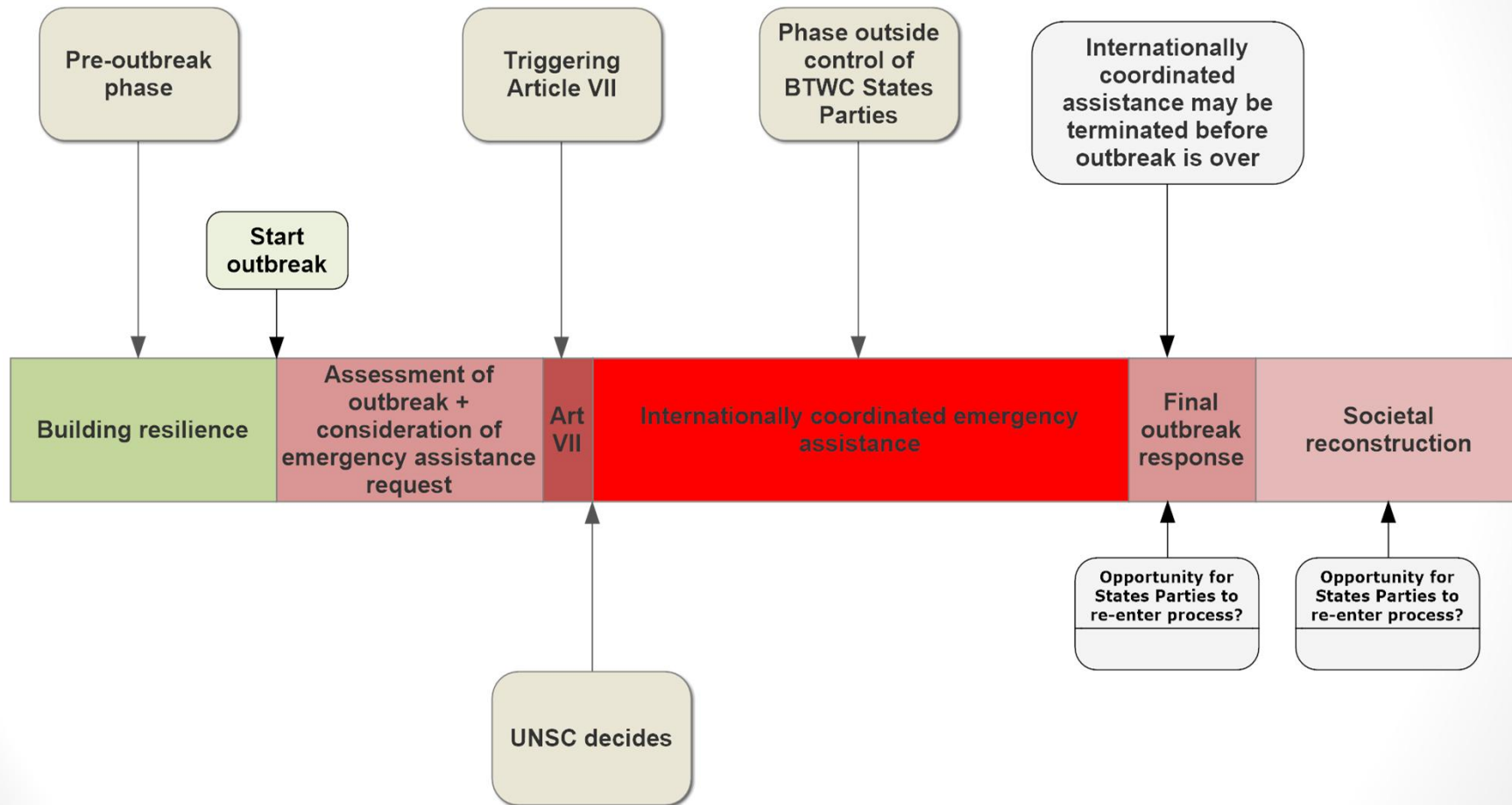
# ASSISTANCE IN CASE OF A VIOLATION OF THE BTWC

## Article VII

Each State Party to this Convention undertakes to **provide or support assistance**, in accordance with **the United Nations Charter**, to any Party to the Convention which so requests, **if the Security Council decides** that such Party has been exposed to **danger** as a result of **violation of the Convention**.



# Possible phases in an Ebola-like crisis



# Interpreting Article VII

- **Assistance**
  - Generally understood to mean humanitarian aid
  - However, explicit reservations by Austria and Switzerland to Article VII in view of their status of permanent neutrality ► how explicit was the reference to humanitarian aid in 1971?
- **UN Charter**
  - Includes Chapter VII (which contains Article 51)
- **If the Security Council decides**
  - What happens if there is no decision?
  - Situation of armed conflict ► may be highly politicised
- **Violation of the Convention**
  - Any provision of the BTWC, or is reference to *BW use* implicit?
  - Does Article VII only cover acts by States Parties?
  - Quid non-Parties; Terrorists?

# RevCons: Additional agreements

- Assistance
  - Can be promptly provided by States Parties, pending UNSC decision (3<sup>rd</sup> RevCon, 1991)
  - Interpretation 4<sup>th</sup> RevCon (1996): prohibition in Article I covers *BW use*
  - 6<sup>th</sup> & 7<sup>th</sup> RevCon (2006 & 2011):
    - Again explicit reference to *BW use*
    - Reference to '*anyone other than a State Party*' (thus includes terrorists)
  - UN and specialised organisations can play role in assistance (3<sup>rd</sup> RevCon, 1991)
- Specification of nature of assistance (humanitarian)
  - 7<sup>th</sup> RevCon (2011): expertise, information, protection, detection, decontamination, prophylactic and medical and other equipment
- National preparedness contributes to international response capacity
  - 6<sup>th</sup> RevCon (2006): response, investigation and mitigation of disease outbreaks, including alleged BW use
- Emphasis on the responsibility and role of individual State Party
  - For providing assistance
  - For coordination with international organisations
  - Own preparedness to meet health threats



# Comments on decision-making chart – 1

- Chart built on assumption of major disease outbreak potentially causing a *humanitarian* crisis
  - The outbreak is *unusual* with *deliberate intent* suspected
  - There is no established procedure for dealing with an Article VII request
    - The UNSG Investigative Mechanism is not a formal part of the BTWC regime
      - However, RevCon final documents have referred to it
      - Some States Parties have listed their material support for the Investigative Mechanism as contributing to Article VII (Repurposing of contributions)
      - Based on the Syria experience and concerns of false allegations (e.g., by the accused state) a request for an investigation may accompany or follow the Article VII invocation
      - The 'accused' State Party may request the UNSG Investigative Mechanism to exonerate itself
    - *BTWC ISU* not formally designated as recipient of any form of complaint, nor do *3 Depository States* have any formal function in BTWC management
    - Would a State Party consider invoking *Article V* before deciding on Article VII (bearing the potential urgency of the crisis in mind)?
      - In that case, are there (reserve) funds available to convene such a meeting (in view of current contribution crisis)?
    - A State Party can always appeal directly to the UNSC or WHO, etc. (+ BTWC Article VI)
  - *Multiple scenarios possible*
    - Elements to the left of the chart will be less evident in case of a threat ('*danger*') rather than of an actual incident

# Comments on decision-making chart – 2

- Consideration has to be given to the *internal* decision-making process of a State Party thinking of invoking Article VII
  - Which factors may contribute to invoking Article VII?
  - Which factors may mitigate against an Article VII request?
    - Domestic
    - International
    - Situation-specific
- Are there other cost-benefit factors to be considered?
  - Relative to other procedures foreseen under the BTWC
  - Relative submitting the concern directly to the UNSC
  - Relative to seeking assistance directly from international organisations such as WHO, OIE, FAO, ...

# Issues that require resolution

- What are the concrete procedures for requesting assistance?
- What are the concrete procedures for mobilising and coordinating action of international organisations?
- Who is in charge?
  - For coordination?
  - For operations in the field?
- Given today's global health security context, what is the specific area BTWC States Parties should be concerned with? And what is their specific role?
  - BW use is an act of war
  - How does the UNSC determine BW use? How to organise an onsite investigation (fast)?
  - Under which circumstances can teams go into a warzone to offer assistance to victims of BW use?
  - Who takes responsibility if the UNSC fails to take appropriate decisions?

Part 3

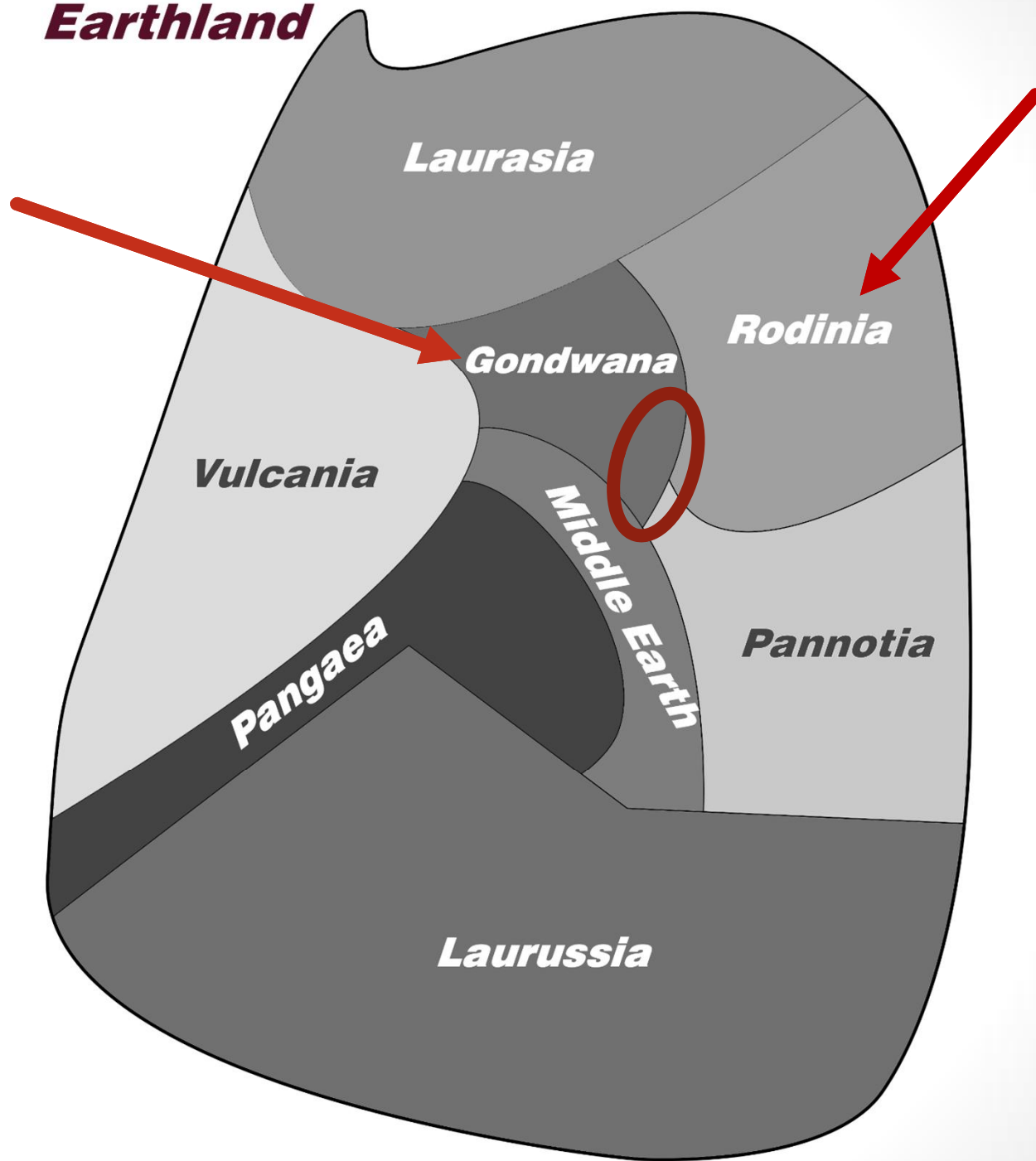
# TABLETOP EXERCISE: SETTING THE STAGE



# Goal of the TTX

- The overall goal is to stimulate reflection on the decision processes that could affect operations in the field
- Such reflection could cover (without being limitative)
  - Anticipation and response to an unusual disease outbreak while deployed to a conflict area
  - Threat monitoring and evaluation
  - Consideration of how an international relief and assistance response under the BTWC might affect your operations

**Earthland**



# Start of a health emergency

- NATO coordinates a peacekeeping operation along the southern part of the border between **Gondwana** and **Rodinia**
- Reports start coming in about a disease outbreak in your area of operations.
  - The causative agent appears highly contagious
  - People succumb fast after initial infection; mortality rates appear high
  - Lack of local health infrastructure and trained personnel complicates identification and characterisation of the agent
    - Initial assessment: bacterial or viral pneumonia
    - After more than 72 hours: possibly pneumonic plague
- Gondwanan Ministry of Health informs peacekeeping forces:
  - Nature and scope of disease outbreak
  - 83 cases recorded in 72 hours; in addition cases in neighbouring countries
  - Victims do not respond to antibiotics; antibiotics also do not seem to protect people

# Organisation of the TTX

- 5 syndicates; two stages in the TTX
  - **Syndicate session = 30 minutes (2x)**
  - **Plenary session = 60 minutes (2x)**
- Each syndicate will receive its specific instructions on the laptop in the syndicate room
  - Appoint a coordinator and a rapporteur
    - Ignore military rank – infectious disease makes no distinction either and everybody must be able to coordinate and respond!
  - Prepare concise, but detailed answers to the questions
  - Type your answers (in bullet form) under each of the questions in the slides
- Keep plenary reporting very concise (**5-8 minutes**) to allow discussion
  - Slides from syndicates will be shared for your information



# THE TRENCH

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**Challenging** entrenched positions

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