

Online Advanced Course

ONE HEALTH APPROACH TO EARLY DETECTION AND RAPID RESPONSE IN THE FACE OF EMERGING AND RE-EMERGING ZOOSES 15-24 March 2021

PROGRAMME

0. Class 0: Video organizers, Video technological tools, Programme presentation

1. Introduction: concepts and principles (5 HOURS)

- 1.1. One Health approach (2 hours)
 - 1.1.1. Concept (1.1.1 to 1.1.4: 1 h) (J.A. Oteo, G.J. Torres)
 - 1.1.2. Involved stakeholders and disciplines (J.A. Oteo, G.J. Torres)
 - 1.1.3. Reasons for One Health and challenges (J.A. Oteo, G.J. Torres)
 - 1.1.4. International dimension and initiatives (J.A. Oteo, G.J. Torres)
 - 1.1.5. Group exercise/debate: Level of implementation/application of the One Health concept in participants' countries (1 h) (M.A. Jiménez-Clavero, J.A. Oteo, G.J. Torres)
- 1.2. Emerging and re-emerging zoonoses as a result of complex interactions (2 hours)
 - 1.2.1. Overview and historical perspective (1.2.1 to 1.2.3: 1 h) (M.A. Jiménez-Clavero)
 - 1.2.2. Emerging pathogens and their ecology: drivers of disease emergence (M.A. Jiménez-Clavero)
 - 1.2.3. Host range and species jump. Species barrier. Pathogen spillover. Immunity (M.A. Jiménez-Clavero)
 - 1.2.4. Transmission scenarios: foodborne, waterborne, airborne, vectorborne, rodentborne and others (1.2.4 to 1.2.6: 1 h) (I. de Blas)
 - 1.2.5. Vectors and their ecology (I. de Blas)
 - 1.2.6. Climate change and emerging infections (I. de Blas)
- 1.3. Epidemiology studies from the One Health perspective (0.5 h) (I. de Blas)
- 1.4. Risk analysis: risk-based decision making (0.5 h) (S. Napp)

2. Surveillance of zoonotic diseases from OH perspective (9,5 HOURS)

- 2.1. Surveillance: concept, objectives, components, types and sources of information. Performance and evaluation of surveillance programmes (2.1 to 2.2: 1 h) (I. de Blas, G. Cáceres)
- 2.2. Investigation of outbreaks: known and unknown diseases (I. de Blas, G. Cáceres)
 - 2.2.1. Systematic approach
 - 2.2.2. Syndromic surveillance systems. Examples in the EU
 - 2.2.3. Diagnostic Laboratory Networks
- 2.3. Integrated surveillance
 - 2.3.1. Animal health, public health and environmental surveillance (2.3.1 and 2.3.2: 1 h) (M.G. Dente)
 - 2.3.2. Surveillance networks (M.G. Dente)
 - 2.3.3. The case of West Nile fever (1 h) (M.G. Dente, L. Hernández-Triana)
- 2.4. Current trends
 - 2.4.1. Disease surveillance: big data analysis, spatial analysis (1 h) (F. Dorea)
 - 2.4.2. Pathogen identification: fast, on-site methods, full genome analysis, metagenomics (1 h) (P.E. Fournier)
 - 2.4.3. Vector monitoring (1 h) (L. Hernández-Triana)
 - 2.4.4. Syndromic surveillance (0.5 h) (A. Alba)
- 2.5. Practical work: design an integrated surveillance programme based on country cases for particular diseases (3 h) (F. Dorea, P.E. Fournier, M.G. Dente, L. Hernández-Triana, I. de Blas, G. Cáceres)

3. Rapid response (13.5 HOURS)

- 3.1. Contingency planning (6 hours)
 - 3.1.1. Concept (3.1.1 to 3.1.7: 1.5 h) (G. Cáceres, CCAES)
 - 3.1.2. FAO, OIE, WHO and other international or regional approaches
 - 3.1.3. Coordination between public health, animal health and environment units for the control of zoonotic epizootic diseases
 - 3.1.4. Suspicion and confirmation phases in the response
 - 3.1.5. Need of simulation exercises to evaluate contingency plans
 - 3.1.6. Epidemiological predictive models: concept, applications and limitations. Examples
 - 3.1.7. Bottle necks for a rapid response
 - 3.1.8. Case study: Crimean-Congo Hemorrhagic fever
 - 3.1.8.1. Presentation (1 h) (J.A. Oteo)
 - 3.1.8.2. Practical work: design of a contingency plan (3 h) (J.A. Oteo, A. Alba, G. Cáceres, CCAES)
 - 3.2. Control measures: seeking integration (8 hours)
 - 3.2.1. Movement restrictions (3.2.1 to 3.2.3: 1 h) (G. Cáceres, CCAES)
 - 3.2.2. Biosecurity (G. Cáceres, CCAES)
 - 3.2.3. Emergency vaccination (G. Cáceres, CCAES)
 - 3.2.4. Vector control strategies (1 h) (L. Hernandez-Triana)
 - 3.2.5. Wildlife control strategies (1 h) (J. Figuerola)
 - 3.2.6. New therapies for fighting against infections and new vaccine developments (1 h) (J.A. Oteo)
 - 3.2.7. Case study: Leishmaniasis, an example of integrated control (1 h) (I. de Blas, L. Hernandez-Triana)
 - 3.2.8. Practical group work/role game to organize control responses based on hypothetical outbreak data, with the different components of the One Health approach being represented in each group (3 h) (M.A. Jiménez-Clavero, S. Napp, CCAES, L. Hernandez-Triana, J. Figuerola, I. de Blas)
- ### **4. Communication strategies (2 HOURS)**
- 4.1. Presentation: who, what, how, when and for whom; ethical issues; social networks (I. Rosell) (0.5 h)
 - 4.2. Debate (I. Rosell, P. Perla, I. de Blas, J.A. Oteo, M.A. Jiménez-Clavero, N. Majò, G. Cáceres) (1.5 h)
- ### **5. Round Table discussion: From COVID-19 to disease X – is the One Health approach the solution? (2 HOURS)** (T. Pumarola, A. Alba, L. Hernandez-Triana, J. Figuerola, CCAES, I. de Blas, G. Cáceres, M.A. Jiménez-Clavero, N. Majò, J.A. Oteo)