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Competencies for One Health Field Epidemiology (COHFE) Framework and Training Guidance

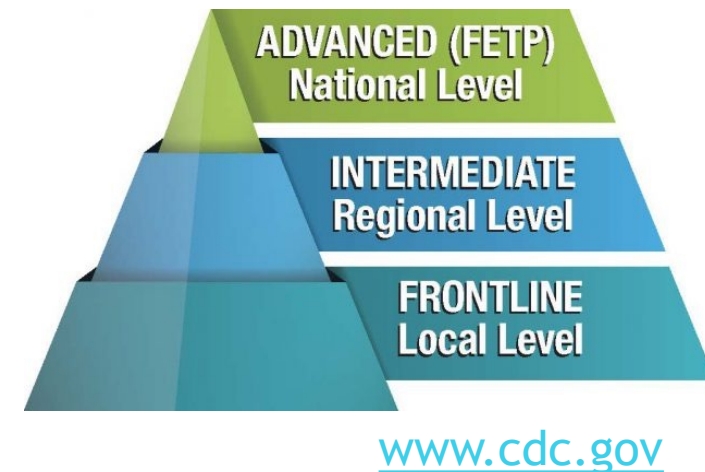
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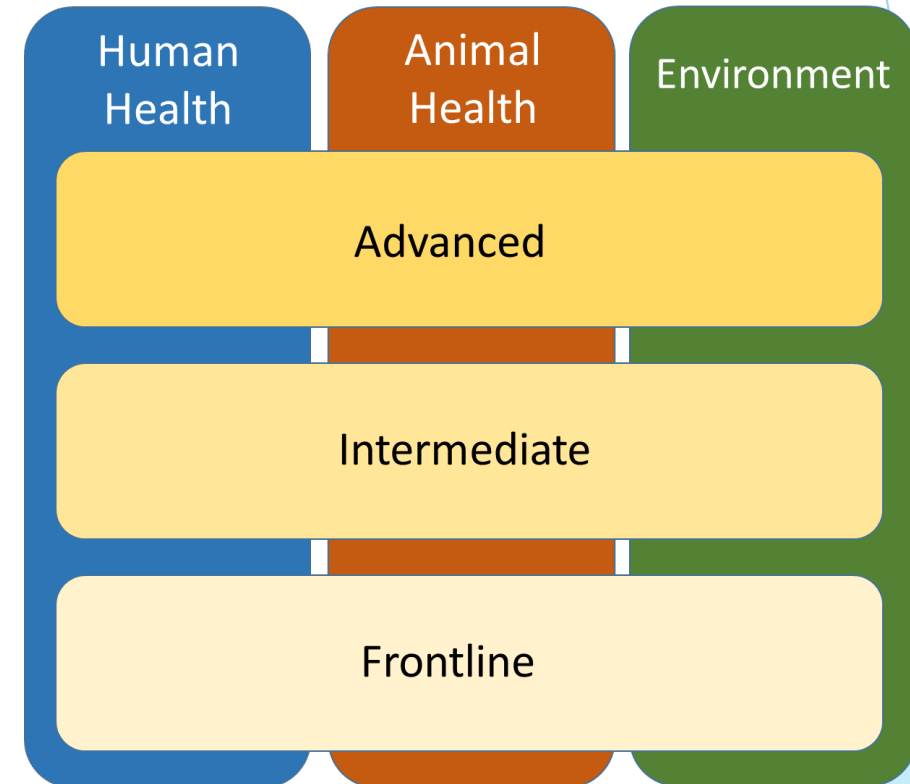
Field Epidemiology Training Programs (FETPs)

- ▶ First FETP at the US Centers for Disease Control and Prevention in 1951
- ▶ Currently 98 active FETP supporting more than 200 countries and territories (www.tephinet.org)
- ▶ Three-tiered training: frontline, intermediate, advanced (www.cdc.gov)
- ▶ *Animal health sector*: FETP for Veterinarians (FEPTV), in-service applied veterinary epidemiology training (ISAVET) programs
- ▶ *Environment sector*: Field training program - wildlife, ecosystems, biodiversity, and the environment (FTP-WEBE)



Objectives

- ▶ Define One Health competencies fundamental to field epidemiology in all sectors
 - ▶ Frontline, intermediate, and advanced training levels
 - ▶ List sector-specific competencies for public health, animal health, and environmental health sectors
- ▶ Curriculum guidance for incorporation of One Health competencies into new or existing programs
- ▶ Supplemental guidance for mentorship, evaluation and certification, and continuing education



Methods/Workplan

- ▶ Desk review and survey of existing programs
 - ▶ Core FAO/WHO/WOAH technical team drafted:
 - ▶ Competency framework
- and guidance for:*
- ▶ Curriculum development
 - ▶ Mentorship
 - ▶ Evaluation and certification
 - ▶ Continuing education
- ▶ Refined through expert consultation with a Technical Advisory Group (TAG) re
 - ▶ 100 subject matter experts in One Health and/or field epidemiology
 - ▶ Feedback provided through:
 - ▶ Working groups
 - ▶ Standard feedback forms
 - ▶ Prioritization of core competencies
- ▶ Revisions and editing
 - ▶ Clearance and publication

Competencies for One Health field epidemiology (COHFE) framework

- ▶ Defines knowledge, skills and competencies by training level
 - ▶ One Health: core and optional
 - ▶ Sector specific
- ▶ 14 domains
 - ▶ 10 technical, 4 functional
 - ▶ 75 subdomains

Training level	Core One Health	Optional One Health
Frontline	49	285
Intermediate	108	525
Advanced	193	806

*preliminary numbers, pending final revisions

✚ Subdomain 3.3 Data collection and analysis

Sector	Frontline	Intermediate	Advanced
One Health (Core)	<ol style="list-style-type: none"> 1. Enter and validate data (S) 2. Conduct descriptive analyses of collected data (C) 	= Frontline + <ol style="list-style-type: none"> 1. Use statistical/spatial analyses and interpret results (univariate) (C) 2. Generate hypotheses about cause/risk factors (C) 	= Intermediate + <ol style="list-style-type: none"> 1. Analyze and interpret human, animal and environmental data to determine the potential origin and spread of an outbreak (C)
One Health (Optional)	<ol style="list-style-type: none"> 1. Interpret diagnostic test results of samples submitted to the laboratory (C) 2. Relate lab results to case categories (C) 	= Frontline + <ol style="list-style-type: none"> 1. Apply analytical epidemiological investigation to identify the source, cause and or risk factor/determinants (C) 	= Intermediate + <ol style="list-style-type: none"> 1. Manage complex datasets and conduct multivariate analysis (C) 2. Use advanced statistical/ geographical analyses/modelling and forecasting and interpret results (C)
Public Health	<i>None at the frontline level</i>	<i>None at the intermediate level</i>	<ol style="list-style-type: none"> 1. Conduct data analysis <u>with regard to</u> vulnerable groups (S)
Animal Health	<ol style="list-style-type: none"> 1. Collect value chain data and draw simplified map value chain to identify potential spread routes and characterize risk (C) 2. Explain the use of value chain mapping in an outbreak investigation(K) 	= Frontline + <ol style="list-style-type: none"> 1. Draw and interpret a value chain map to identify potential spread routes and high-risk points of an animal disease outbreak (C) 	= Intermediate + <ol style="list-style-type: none"> 1. Design value chain investigation and advanced analysis of data to characterize risk (S)
Environment	<i>None at the frontline level</i>	<i>None at the intermediate level</i>	<i>None at the advanced level</i>

Guidance for One Health Field Epidemiology Curriculum Development

Subdomain	Frontline	Intermediate*	Advanced**
10.1 Biodiversity and ecosystem function	Describe local ecosystems and identify risks for emergence or transmission of disease	Explain how wildlife and healthy ecosystems promote health across the environment-human-animal interface	Identify drivers for distributions of populations and changes in biodiversity while advocating for ecosystem-based approaches.

Higher order competencies by subdomain and training level

Topic Name and Description	Learning Objectives		
	Frontline	Intermediate	Advanced
Leadership and Policy development <i>This topic aims to provide trainees with the necessary skills in leadership and policy development. It covers approaches for collaboration, communication, and One Health policy development.</i>	<ul style="list-style-type: none"> Describe ethical principles and professional code of conduct. Practice self-awareness. Implement One Health policies at the local level. <p><i>Core competencies:</i> 11.1.1.f – 11.1.2.f</p>	<ul style="list-style-type: none"> Perform stakeholder mapping. Use listening skills to understand different perspectives and priorities. Implement One Health policies at regional levels. Implement community-based approaches for field investigation. <p><i>Core competencies:</i> 11.1.1.i – 11.1.2.i 11.2.1.i</p>	<ul style="list-style-type: none"> Adapt leadership style according to the context. Advocate for policy development in relation to one health. Evaluate the implementation of One Health policies. Communicate ideas and expectations with team members. <p><i>Core competencies:</i> 11.1.1.a 11.2.1.a</p>

Curriculum topics, descriptions and learning objectives

Other supplemental manuals

- ▶ *Guidance for One Health Field Epidemiology Mentorship*
 - ▶ Describes a mentorship program for FETP, identifies core competencies for mentors, proposes a mentor training program, presents a mentor evaluation framework
- ▶ *Guidance for One Health Field Epidemiology Evaluation and Certification*
 - ▶ Describes best practices for evaluating participants and establishing certification requirements
- ▶ *Guidance for One Health Field Epidemiology Continuing Education (CE) Programmes*
 - ▶ Administration and governance, programming and learning activities, programme approval and awarding CE credits

Surveillance
Surveillance data analysis
Surveillance summary report
Surveillance system evaluation
Outbreak Investigation
Outbreak investigation design/implementation
Outbreak investigation report
Epidemiologic Study
Scientific protocol
Epidemiologic investigation
Communication
Data visualization
Scientific Presentation
Abstract
Bulletin Article
Peer-reviewed manuscript
Lay Audience Communication
Optional/Other
Surveillance system design/implementation
Health situation analysis
Program Evaluation
Service
Training
Dissertation/Thesis

Conclusions and next steps

- ▶ Comprehensive framework of One Health Field Epidemiology competencies from the human, animal, and environment sectors
- ▶ An opportunity for all sectors to contribute and collaborate at the global level
- ▶ Focus on practical recommendations for programs to digest and incorporate the framework
- ▶ Currently in the final stages of revisions, clearance, publication, translation
- ▶ Preparing for implementation phase
 - ▶ Field pilot, evaluation, and updated guidance
 - ▶ Digital tools for prioritizing and customizing competencies and curriculum for programs



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Thank you!