

IO2.2. Collection of best practices on zoonoses interventions

University of Zagreb Faculty of Veterinary Medicine, Croatia

Type of practice	guideline/ case study/ project/ intervention programme / testing/ guidance tools/ articles
Best practice title	Molecular epizootiology and epidemiology of leptospirosis and hemorrhagic fever with renal syndrome
Period of implementation	Ten years
Location	The area of continental Croatia (where the natural foci of these diseases are present)
Geographical coverage	National
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Target audience	<p>Residents of vulnerable areas. People professionally exposed to infection with West Nile virus (veterinarians, hunters, fishermen, farmers, owners and breeders of birds forest workers...)</p> <p>People who frequently stay in nature (hikers, mountaineers, athletes...)</p>
Objectives	<p>The objectives of this program are:</p> <ul style="list-style-type: none"> - Isolation, molecular determination and phylogenetic analysis of the causative agents of the diseases

	<ul style="list-style-type: none"> - Determination of the frequency of infections in rodents and determination of areas where HFRS occurs endemic - Identification of the most common reservoirs of diseases in the Republic of Croatia - Correlate the appearance of the diseases in rodents in a given geographic area with the occurrence of the diseases in people from the same area - Investigate and identify risk factors (number of rodent population, weather conditions, etc.) which lead to an increased occurrence of these diseases in the major host - Based on the data on epizootiology of the disease, link the etiology of disease with clinical manifestation of disease in humans
<p>Short description</p>	<p>During the implementation the program will enable to determine the frequency of infections in rodents and determine areas where diseases occur endemic. Based on these results, risk factors for people will be identified, which will ensure the application of quality biosecurity measures for people exposed to infection.</p>
<p>Activities/Action plan</p>	<p>1. Determination of the etiology of the diseases 2. Determination of the frequency of infections in rodents 3. Identification of the most common reservoirs of diseases 4. Determination of the areas where diseases occur endemic 5. Correlate the appearance of infections in rodents in a given geographic area with the occurrence of the diseases in people from the same area 6. Investigation and identification of risk factors which lead to an increased occurrence of these diseases in the major hosts 7. Ensure the application of quality biosecurity measures for people exposed to infection.</p>
<p>Resources/Products</p>	<p>Resources:</p> <p>1. Material:</p> <p>a) Sample of 1000 small rodents per year (sampling with traps by the linear transect method)</p> <p>2. Methods:</p> <p>a) Sampling of small rodents with traps by the linear transect method b) Identification of rodent species c) Rodent section and organ sampling d) Serological testing of serum samples of rodents for presence of specific antibodies to <i>leptospirae</i> by MAT and HFRS virus by IFAT e) Isolation of <i>leptospirae</i> from rodent kidney f) Isolation and molecular testing (RT PCR) of</p>

	<p>samples of rodent lung for presence of HFRS virus f) Isolation, molecular determination and phylogenetic analysis of the causative agents of the diseases</p> <p><u>Products:</u></p> <ol style="list-style-type: none"> 1. Establishing epizootiological and epidemiological situation of leptospirosis and HFRS in continental Croatia 2. Determining risk factors for people exposed to the diseases 3. Application of quality biosecurity measures for people exposed to tularemia.
Impact	<p>Continuous monitoring of epizootiological and epidemiological situation of leptospirosis and HFRS in continental Croatia, will enable the application of quality and timely preventive measures for protection of animal and human health.</p>
Key words	<p>leptospirosis, hemorrhagic fever with renal syndrome, epizootiology, epidemiology, prevention</p>