ACTIVE SURVEILLANCE FOR CANINE LEISHMANIASIS IN EMILIA-ROMAGNA PUBLIC KENNELS:
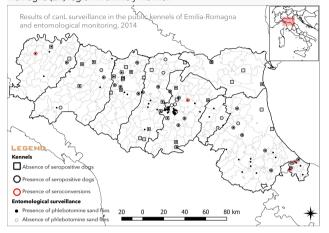# A WEB-BASED INFORMATION SYSTEM

Paternoster G.*, Galletti G.*, Santi A.*, Renzi M.*, Lombardini A.^, Caminiti A.*, Rugna G.*, Tamba M.*
*Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia-Romagna, Brescia, Italy ^Regione Emilia-Romagna, Bologna, Italy

OBJECTIVE Enhancing data quality, collection & dissemination, providing information on the epidemiology of canine leishmaniasis (canL) in Emilia-Romagna (ER) region in a timely manner.

Results of canL surveillance in the public kennels of Emilia-Romagna and entomological monitoring, 2014

LEGEND

Kennels
□ Absence of seropositive dogs
○ Presence of seropositive dogs
○ Presence of seroconversions

Entomological surveillance
● Presence of phlebotomine sand flies
○ Absence of phlebotomine sand flies

20 0   20   40   60   80 km

INTRODUCTION Active surveillance for canL has been implemented since 2007 in the public kennels of ER region with the aim of providing health guarantees for dog adoptions [1]. Veterinary Officials perform entomological and serological surveillance to assess the presence of **phlebotomine sand flies** and **canL infected dogs**. These risk factors are used to rank kennels in four canL risk classes, to implement **specific risk mitigation actions**. Routinary serological surveillance (IFAT; [2]) is performed on all dogs on admittance to the kennel; on clinical suspects (syndromic surveillance) and on sentinel dogs.

SPECIFIC RISK MITIGATION ACTIONS

Anti-vector measures on all dogs
Medical treatment when IFAT ≥ 1:160
Sentinel surveillance
CLASS 1

Sentinel surveillance
CLASS 3

Anti-vector measures when IFAT ≥ 1:40
Medical treatment when IFAT ≥ 1:160
Entomological surveillance
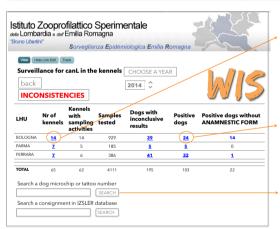**CLASS 2**

Entomological surveillance
CLASS 4

CAN-L RISK-CLASSES OF KENNELS & RISK MITIGATION ACTIONS

METHOD In 2014 we developed a web-based information system (WIS) as a tool to support canL surveillance in the 65 ER public kennels. The WIS displays data of the 8 Local Health Units (LHU): for each LHU you can click on kennels & see the summary of the sampling activities in all kennels. Clicking on a single kennel you will access a list of all tested dogs results. WIS is available online for authorized users only, at **HTTP://SEER.IZSLER.IT**

Istituto Zooprofilattico Sperimentale
della Lombardia e dell' Emilia Romagna
"Bruno Ubertini"

Sorveglianza Epidemiologica Emilia Romagna

View | Help Link Edit | Track

Surveillance for canL in the kennels CHOOSE A YEAR

back   2014

INCONSISTENCIES

LHU	Nr of kennels	Kennels with sampling activities	Samples tested	Dogs with inconclusive results	Positive dogs	Positive dogs without ANAMNESTIC FORM
BOLOGNA	14	14	929	39	24	14
PARMA	7	5	185	5	5	0
FERRARA	7	6	386	41	32	1
TOTAL	65	62	4111	195	103	22

Search a dog microchip or tattoo number
[   ] SEARCH

Search a consignment in IZSLER database
[   ] SEARCH

Kennel ID	Kennel	Municipality	ADMITTANCE		SENTINEL DOGS	
			NR of tested dogs	NR of positive dogs	NR of tested dogs	NR of positive dogs
001BO127	Municipal kennel	Anzola dell'Emilia	35	2	3	1

SUMMARY - KENNELS

Kennel ID	Consignment ID	Sampling date	Sample NR	Dog microchip	Reson for sampling	Technique	Result - description	Result - titre	Date of Anamnestic form update	INSERT/UPDATE ANAMNESTIC FORM
009BO082	176461	02-11-2014	27	380260020030828	2 - admittance	IFAT	POSITIVE	>320	11-07-2014	Insert / update anamnestic form

LIST OF POSITIVE DOGS IN THE KENNELS OF A LHU

Kennel ID	Consignment ID	Sampling date	Sample NR	DOG microchip	Reson for sampling - description	Technique	Result - description	Result - titre
057BO198	214361	08/09/2011	2	380260000556214	2 - admittance	IFAT	Negative	N
057BO198	107657	22/04/2014	7	380260000556214	3 - sentinel dog	IFAT	Positive	>320

SEROLOGICAL TESTING OF A SINGLE DOG

RESULTS The WIS is available since may 2014 and currently collects data on more than 28,000 univocally identified dogs. The system displays the results of individual serological testing of all positive & inconclusive dogs of each LHU, all dogs tested in single kennel, all serological tests of a single dog or a single consignment.

RELEVANCE
Easier planning of surveillance activities: lists of dogs with positive and inconclusive test results facilitate the planning of further serological testing, of the appropriate therapy and of the adoption of risk mitigation actions.
Timely information: IFA tests are carried out in a single officially recognized laboratory and test results are daily uploaded.
Data quality: possibility to upload and to update the **anamnestic form** of seropositive dogs. Clicking on the button **INCONSISTENCIES** WIS highlights possible conflicting data concerning dog identification or the reason for sampling.

Anamnestic form

Kennel ID	Ulcer
Date of entrance	Onychogryphosis
Microchip	Epistaxsis
Sex Size Fur Breed	Pale mucous membranes
Origin	Splenomegaly
Symptoms	Loss of weight
Enlargement of lymph nodes	Other symptoms
•Popliteal lymphadenomegaly	**Therapy**
•Prescapular lymphadenomegaly	Therapy products
•Retroscapular lymphadenomegaly	Therapy dosage
•Mandibular lymphadenomegaly	**Date of exit**
•Systemic lymphadenomegaly	**Reason of exit**
Dermatitis Alopecia	

INCONSISTENCIES - DETAIL

Kennel ID	Consignment ID	Sampling date	Sample NR	Microchip	Microchip length	Reson for sampling	Technique	Result - description	Result - titre
007FC676	96968	09-04-2014	2	380260100002948	15	0-	IFAT	Negative	N
007FC676	182256	10-07-2014	1	-	0	2 - admittance	IFAT	Negative	N
007FC676	208171	07-08-2014	2	380260040	9	3 - sentinel dog	IFAT	Negative	N

References: [1] Santi A., Renzi M., Baldelli R., Calzolari M., Caminiti A., Dell'Anna S., Galletti G., Lombardini A., Paternoster G., Tamba M. 2013. A surveillance program on canine leishmaniasis in the public kennels of Emilia-Romagna region, Northern Italy. Vector-Borne and Zoonotic Diseases, Vol. 14 Issue 3, 206-211. [2] OIE World Organisation for Animal Health. 2014. Manual of Diagnostic Tests and Vaccines for Terrestrial Animals. cap. 2.1.8, par. 2.1.3. Available online: http://www.oie.int/fileadmin/Home/eng/Health_standards/tahm/2.01.08_LEISHMANIOSIS.pdf, last access on 11/02/2015