ANTIBACTERIAL AGENT SUSCEPTIBLITY AND RESISTANCE & BACTERIAL ANATOMICAL SITE ANALYSIS

LOUISIANA VETERINARY MEDICAL DIAGNOSTIC LABORATORY
2004

PRELIMINARY REPORT
Introduction
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Introduction

The following draft report was prepared by the Infectious Disease Epidemiology Section, Office of Public Health, Louisiana Department of Health and Hospitals, under the direction of Dr. Gary Balsamo, State Public Health Veterinarian. The purpose of the report is to display the specific susceptibility and resistance characteristics of microbes isolated by the Louisiana Veterinary Medical Diagnostic Laboratory (LVMDL).

The development of antibiotic resistance to antimicrobial agents is important in both human and animal medicine. Environmental exposure of microbes to antimicrobial agents is a major factor in some mechanisms of resistance. The degree of the effect of antimicrobial use in animals on antimicrobial resistance in human medicine is complicated, multi-factorial, and difficult to examine. This report does not pretend to analyze this problem, but is the first step in what hopefully will develop into a systematic analysis of resistance patterns in veterinary medicine in Louisiana, that may later be compared to those in human medicine.

The following susceptibility/resistance patterns are examined across all animal species from which specimens were submitted. The possibility of differences in susceptibility/resistance patterns between different animal species is a real possibility, if not a likelihood. An analysis of animal species differences in these patterns is presently being carried out by the authors of this report, and will most likely be included in future versions.

Approximately, forty percent (40%) of the samples analyzed originated from the Louisiana State University School of Veterinary Medicine Teaching Hospital and Clinics. Teaching hospital samples may represent a biased population of microorganisms. Isolates from nosocomial infections and those previously treated with multiple drugs could skew the susceptibility profiles, reducing the validity of these profiles in predicting bacterial susceptibility in the general animal population.

This report may be used by practitioners as an additional source of information upon which to base selection of appropriate antimicrobial therapy. Practitioners should be aware that, due to broad analyses on samples from multiple animal species and the absence of statistical examination of the validity of these results in predicting susceptibility/resistance patterns in Louisiana's animal population, this report should never be used as the sole determinant of antimicrobial selection.

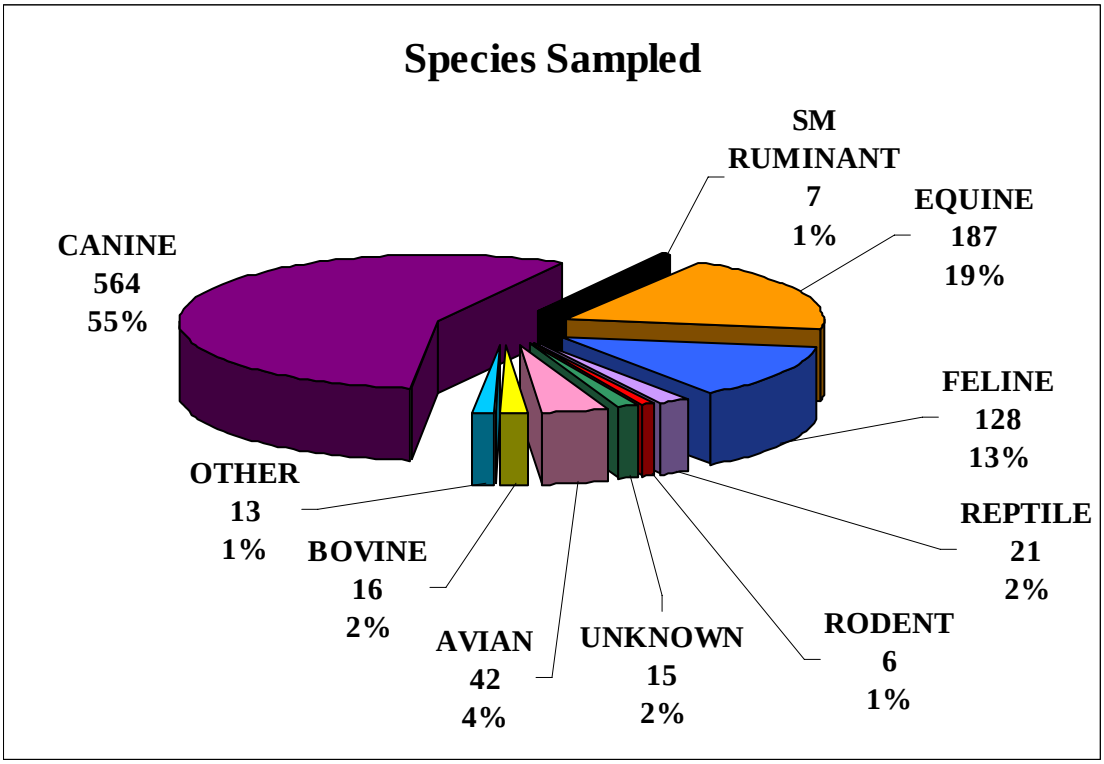
I. General Information

The following three sections were developed from information provided by the Louisiana Veterinary Medical Diagnostic Laboratory (LVMDL). The Louisiana Veterinary Medical Diagnostic Laboratory is a full-service AAVLD-accredited laboratory. Housed in Louisiana State University's School of Veterinary Medicine, the LVMDL serves the people of Louisiana and surrounding states by providing animal disease diagnostic services to agricultural and general communities in the State of Louisiana. The LVMDL operates in partnership with the Louisiana Department of Agriculture and Forestry, Louisiana State University, LSU School of Veterinary Medicine, Louisiana veterinarians, and livestock and poultry producers.[1]

This information was collected on all culture and sensitivity results performed by the laboratory during the 2004 calendar year. Microsoft Excel and Access, Epi-Info, and SAS were used to produce the following graphs and tables.

999 microbial agents from at least 15 species of animals were isolated. Several samples were submitted from unknown sources.

The following figure illustrates the animal species breakdown of all samples:



1. http://lvmdl.lsu.edu/index.asp