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## **Implementation of a canine gastroenteritis real-time participation and monitoring system: a possibly valuable epidemiological tool**

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### **Abstract:**

The gastrointestinal tract inflammation is a frequent event in the veterinary clinical practice of small animals and the main symptoms are diarrhea and vomit. These gastrointestinal disorders have several origins namely, parasites, bacteria, viruses and protozoa and some of which are zoonotic, which raises concerns on public health. Due to this fact it is important to be concerned and careful in the isolation of the sick animal from other animals and even humans.

The purpose of the present work is to describe the value of implementing the real-time web-based monitoring system GASTROCANIS in Portugal. This system of real-time participation of canine gastroenteritis will help in the characterization of the gastrointestinal infections of the dogs describing them in a time and geographic pattern, which will result in an important tool in helping further detailed studies about the epidemiology of gastrointestinal diseases.

**Key-words:** dog; canine gastroenteritis; GASTROCANIS; diarrhea; vomit

### **Introduction and Method**

The gastroenteritis is the stomach and intestine inflammation which produces vomits and diarrhea (Boden, 2005). The gastrointestinal diseases are common in the clinical practice of small animals and they are revealed through a sudden and often serious manifestation of a sharp vomit and diarrhea, but some animals may present other symptoms like dehydration, depression, lethargy, loss of appetite, abdominal pain, borborygmi and anorexia. Many times it appears blood in the vomit and in the diarrhea or bile may appear in the vomit (Cotê, 2008; German, 2008). When symptoms improve 24 to 48 hours after their beginning it is considered to be an acute gastroenteritis, on the other hand if the symptoms persist or are not resolved by treatment is because this is a chronic gastroenteritis (Cotê, 2008; German, 2008). On any case, the changes happening in the gastrointestinal tract causes a decrease in the nutrients absorption through the mucosa leading to dehydration, hydroelectrolytic and basic-acid disturbs, and death can occur (Baxter, 2008). Given the extreme importance of this group of diseases affecting the gastrointestinal (GI) tract, concerns are given to the pathogens that are responsible for some of these diseases, and that may be transmitted to other animals, including humans.

### **Etiology e Epidemiology**

#### **1. Bacteria**

Although there are some exceptions, the causes with bacterium origin are rare. The intestinal lumen has a diversity of bacteria which form intestinal flora and act in the preservation of the anatomic structures, prevent the colonization by pathogenic bacteria and allow the occurrence of physiologic processes as the digestion and the absorption of nutrients. So, the pathogenic bacteria mentioned below appear not only in diarrheal stool but also in the stools of healthy animals (Gaschen, 2006). *Colostridium* spp., *Campylobacter* spp., *Salmonella* spp, *Yersinia* spp, *Helicobacter* spp., and even some of the *Escherichia coli* common in the GI tract can be responsible for the bacterial gastroenteritis (Stanley, 2008).