

The importance of communicating surveillance information illustrated by the BVD type 2 outbreaks in the Netherlands

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Abstract

Horizon scanning by a national and international network prepares countries for possible animal health risks. When a disease is introduced into a country, surveillance should detect it as soon as possible. Low threshold communication between practitioners, farmers and the monitoring organisation is essential to detect new diseases through passive surveillance. Within the monitoring organisation regular contact between pathology-, laboratory- and animal health experts is essential to discover new signals. After detection, informing the stakeholders (e.g. government and industry) is essential for management decisions to prevent further spread of disease. Briefing practitioners and farmers about horizon scanning and surveillance results aids in early detection, therapy and prevention. Surveillance results should also be shared within the international network for everybody's benefit.

The effective and essential communication between national and international veterinarians, GD-experts (pathologists and veterinarians) at one side and communication between GD and the producer- and interbranche organisations and the Ministry of Economic Affairs on the other side, can accelerate the detection and probably reduce the spread of a disease after introduction. The communication process is illustrated by the case of the BVD type 2 outbreaks in the Netherlands.

Keywords: *communication, surveillance, monitoring, BVD type 2*

Introduction

The Netherlands is a densely populated livestock area with on 41,543km², 4 million cattle, 1.5 million sheep and goats, 16 million poultry and 14 million pigs. For the Dutch economy export of animals and their products is important and thus healthy animals are considered very important for safe and sustainable production of meat, dairy products and eggs.

GD Animal Health (GD) has been commissioned to monitor farm animal health by the Dutch Ministry of Economic Affairs and the producer- and interbranche organisations. The Dutch Animal Health Monitor has three goals: (i) detecting outbreaks of known diseases as well as exotic diseases (e.g. OIE-listed diseases such as Bluetongue that was introduced in 2006); (ii) detect new, unknown diseases (e.g. the outbreak with Schmallenbergvirus in 2011); (iii) monitor trends and developments in animal health and related parameters. The aim of this paper is to illustrate the important role of communication in surveillance by the case of the BVD type 2 outbreaks on veal farms in the Netherlands in 2013 and 2014.

Materials and methods

Information sources

The aggregation and interpretation of information are the key components of monitoring animal health (Figure 1). GD obtains information nationally by collaborating with veterinary practitioners, farmers and agricultural and veterinary organisations. GD also cooperates with European institutions. All information gathered is analysed, interpreted and communicated with these organisations, veterinary practitioners and farmers. Our international network is of growing importance. We share information with (inter) national colleagues to better animal health surveillance, expand knowledge, accelerate detection and improve treatment and prevention to ameliorate animal health worldwide. GD gathers information for monitoring both reactively and proactively. Proactive information gathering is mainly geared for identifying trends and new developments by using amongst others, census data from different national data-suppliers and for prevalence studies. Reactive gathering aims to detect signals from the field in the broadest possible sense, and relies on the initiative of farmers and veterinary practitioners to provide this information. Our enhanced reactive surveillance, consists of the following components:

GD Animal Health telephone helpdesk 'Veekijker'

Veterinary practitioners can call the GD telephone helpdesk 'Veekijker' for supportive advice (free of charge). 'Veekijker' cattle health experts can also perform farm visits (subsidised fee). The helpdesk receives circa 4,000 calls per year and the experts visit about 275 farms yearly. This low threshold helpdesk proves a sensitive method to detect emerging diseases such as Bluetongue in 2006, Bovine Neonatal Pancytopenia in 2008 and Schmallenbergvirus in 2011.

Pathology

Veterinary practitioners and farmers are able to submit animals for post-mortem examination (subsidised fee). About 2,700 necropsies on ruminants are executed yearly. Necropsy, histology and additional tests are used to detect the underlying cause of death. Noteworthy signals are discussed in the meeting of the pathologists and the weekly assembly of the 'Veekijker'-experts.

Figure 1. Layout of the Dutch monitoring system.



International network

In 2009 an international network was initiated between a few European countries (the Netherlands, England and Switzerland) to stimulate and promote the exchange of (confidential) monitoring information. This developed to the European Veterinary Surveillance Network (EVSN) which in 2016 consists of Belgium, Germany (NRW), Ireland, Switzerland, the Netherlands and the United Kingdom (England, Wales, Scotland and Northern Ireland). Besides this international network, divers other formal and informal contacts contribute to exchange of information between the Netherlands, our neighboring countries and other European countries.

Communication to policymakers

Each quarter, information from all surveillance components is presented to the steering committee consisting of deputies of the Dutch Ministry of Economic Affairs (including Food and Safety Authority) and producer- and interbranche organisations. During this quarterly meeting actions can be initiated in response to results from the monitoring. These actions may consist of further research by a.o. GD (1) or actions taken by the producer- or interbranche organisation. If necessary, immediate exchange of information by mail and/or phone takes place between GD and the steering committee members, and immediate actions can be taken. For example, when a BVD type 2 outbreak in the Netherlands was suspected and when it was confirmed.

Communication with veterinarians and farmers

Results from the monitoring is communicated to veterinarians and farmers by digital newsletters, GD-magazines, flyers and information on the open website and a secure website ('DAP contact'; only accessible to veterinarians). When urgent information needs to be shared, an extra email will be sent to veterinarians subscribed to the GD-newsletters.

Results

The importance of (inter)national exchange of information

On 1 February 2013 a German veterinarian of the Chamber of Agriculture for North Rhine-Westphalia contacted a 'Veekijker'-veterinarian to inform about BVD outbreaks in dairy and veal herds in Germany that started in November 2012 (2). The diagnosis of BVD type 2c was confirmed in February 2013. He informed the GD-veterinarian that the outbreak was close to the German-Dutch border and shared information about the clinical symptoms. He asked if the

'Veekijker' or the GD-pathology department noticed similar signs in the Netherlands. In March 2013 a Dutch practitioner contacted the 'Veekijker' because he wanted to discuss a case of severe symptoms and high mortality on a Dutch veal farm with calves exclusively imported from Germany. He had sent 4 veal calves for necropsy to GD. In three calves BVD-virus was detected in the organs. The symptoms described by the practitioner and the necropsy findings were indicative for BVD type 2. Because the 'Veekijker'-veterinarian knew of the BVD type 2c outbreak in Germany, the steering commission was immediately informed about this case by email and samples were sent to the German Friedrich Loeffler Institute (FLI). BVD type 2c was confirmed in April 2013.

Communication to agricultural organisations

BVD is not an OIE-listed disease. Therefore, the producer- and interbranche organisations can decide how to manage an outbreak. Because of the international commercial interests, the Dutch Chief Veterinary Officer (CVO) was informed about the situation and received detailed information of the affected farms (with permission of the farmers), as to exchange information with the German CVO. The goal of this exchange of detailed information was to find the source of the outbreak and reduce the spread of this disease.

To accelerate the exchange of information about new cases in the Netherlands, a crisis team was formed. Deputies from producer- and interbranche organisations, the organisation of veal veterinarians and GD participated in this team. Information was shared by email and in meetings. A protocol was set up for infected farms to reduce the risk of spread within the farm and between farms. The Dutch Foundation for Quality Guarantee of the Veal Sector (SKV) temporarily introduced risk mitigating measures concerning the import of calves from specific German federal states, to prevent reintroduction of the disease by import.

In 2013, 14 Dutch veal farms were infected with BVD type 2, of which 13 were infected before the import measures were in place. All veal farms had imported German calves. In June 2014, in a second outbreak, four Dutch veal farms with German calves, bought in the same week, had clinical signs of an infection with BVD type 2. In all cases, the veterinary practitioners specialised in veal sent calves to GD for necropsy and a BVD-infection was confirmed. Typing the BVD virus in 2014 was conducted by the Belgian Veterinary and Agrochemical Research Centre (CODA-CERVA), which confirmed that the clinical signs were caused by BVD type 2. Thanks to the quick diagnostics by GD and CODA-CERVA, exchange of information with the crisis team and intervention by the crisis team, the outbreak in 2014 was limited to these four farms.

In 2015 and 2016 no BVD type 2 outbreaks were detected in the Netherlands.

Discussion

BVD type 2 is not an OIE list disease. Nevertheless to prevent

losses due to possible export bans it is very important to have a low threshold information system with practitioners and farmers on clinical symptoms. Weekly discussions between pathologists, scientific laboratory staff and 'Veekijker'-experts will quickly surface new signals. After detection, communication of information with the government and industry proves beneficial in preventing spread of new diseases. Communicating results with the practitioners and farmers aids in early detection, therapy and prevention. Results are then shared within the international network for everybody's benefit.

In the Netherlands two outbreaks with BVD type 2 were introduced, one in 2013 and the other in 2014. During the first outbreak in 2013, the disease was introduced at 13 farms before (import) measures were implemented. Only one farm was infected after these risk mitigating measures were implemented. Each affected farm followed a strict movement and hygiene protocol to prevent spread of the disease within and between farms. In 2014 all four farms had German calves bought in the same week. After these four farms, no new infections were detected in the Netherlands.

The symptoms of a BVD type 2 outbreak were in all cases so severe with high morbidity and mortality, that we assume that practitioners that were involved in such cases, would have contacted the 'Veekijker' and/or sent calves for necropsy to GD. The effective and essential communication between (inter)national veterinarians, GD-experts (pathologists and veterinarians) at one side and communication between GD and the different producer- and interbranche organisations and the Ministry of Economic Affairs on the other side, limited the number of infected herds and reduced the spread of the BVD type 2 infection.

References

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