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GLOBAL SURVEILLANCE FOR FOOT AND MOUTH DISEASE – CHALLENGES, CONCEPTS, CONSTRAINTS

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The quality of global surveillance for foot-and-mouth disease remains poor in vast areas of the world, although its status as a disease of obligatory notification is likely to be included in the national legislation of most countries. Not unexpectedly surveillance systems for FMD are far better where FMD does not occur, as a consequence of the importance given to trade issues. However, little recognition is given to the socio-economic impact of FMD on at the local level which can erode benefits in agricultural work (traction, transport, and cultivation), production efficiency and yields, and mortality among young stock.

Global (i.e., FAO/OIE/WHO Global Early Warning System; ReLaIS), regional (SADC, ASEAN, Panaftosa) or local surveillance for FMD should consider not only the identification of the presence of the disease (clinical, virological, molecular or serological), but also incorporate quality data by the number of entries, tabulation and collation of all vesicular and erosive diseases identified and diagnosed in FMD-susceptible species (including wildlife) where FMD is was not diagnosed, but suspected. As such, the focus (training, education, laboratory differential diagnostic proficiency ...) should be based on syndromic surveillance with competencies including field investigations and a repertoire of diagnostic competency. Essential to improve FMD surveillance is to have incentives for the proprietor to do so - often not considered.

Global reporting on the occurrence of FMD is most often based on positive findings (and then only when it there is an “epidemiologically significant event”), but little is seen, and less is analysed, by the international or regional organisations of all the negative findings during scanning (primary) or active/targeted surveillance and field investigatory work where FMD virus was not identified. Where FMD is endemic, countries may not report as the event is not “epidemiologically significant” or where there is little government commitment. Understanding global, regional, local trade and livestock and market chains of animals or animal products is also invaluable to have a comprehensive understanding of the FMD epidemiology as it will assist in the identification of critical risk points and risk based surveillance activities. It is essential that viruses be characterised molecularly, biologically and in a timely fashion and the use of reference laboratories and those in regional networks promoted for this purpose. Global surveillance for FMD should follow SMART principles (sensitive, measurable, action orientated, realistic and timely). Such requirement in overall global surveillance for FMD applies to countries or zones where FMD is endemic, sporadic or considered free of the disease. To embark on a FMD progressive control pathway, serological (i.e., NSP in younger animals and non-vaccinated susceptible species) and virological/gene sequencing studies to understand origins, mitigate risks, and appropriate vaccine selection must be supported, with feedback mechanisms for improved action.