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FOOT AND MOUTH DISEASE SITUATION AND CONTROL STRATEGIES IN THE PEOPLE'S REPUBLIC OF CHINA - THE CURRENT SITUATION

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Foot and mouth disease (FMD) is a devastating viral disease of cloven-hoofed animals. Since 2005, 46 outbreaks of Asia 1 serotype FMD have been reported in 17 provincial administrative areas. There were 8 new outbreaks of Asia 1 FMD in 7 provinces in 2009, and among these, 6 provinces reported the outbreak for the first time, although the epizootic has been limited to north-western China since 2006. VP1 sequencing of the virus isolated in 2009 shows several amino acid mutations in the VP1 protein, which may favour virus propagation under immune pressure. These findings indicate that the situation for Asia 1 FMD control is not encouraging.

The most shocking finding has been the introduction of type A FMD at the beginning of this year (2009). The first case was found in Wuhan in the Hubei province, followed by cases in Shanghai, Jiangsu, Guangxi, Guizhou and Shandong provinces. The results of VP1 sequencing showed that the virus came from the same source and is different from the historical strain of type A FMD virus. The VP1 sequences of A/HuB/WH/2009 and A/SH/2009 are closely related to some published VP1 sequences of A/MAY/02 (95.9%), A/Tai/07 (95.7%) and A/Lao/8/06 (95.3%), and highly homologous to A/Tai/08 virus compared by WRL, which indicates that the virus was introduced from South East Asia. This type A virus mainly affects cattle, and swine can also show clinical signs in some field cases. Under experimental conditions, pigs and sheep show subclinical infection by contact with diseased cattle. Epidemiological analysis indicates that animal trade and animal movements are the major reason for this type A FMD outbreak and transmission to different provinces.

In response to the epizootic of Asia 1 and type A FMD in mainland China, the government is making great efforts to control the disease. For type A FMD, no vaccine is available to date, so control measures include destroying all infected and suspect animals, controlling animal movements, epidemiological surveillance and quarantine measures. For Asia 1 FMD, monovalent and O and Asia 1 bivalent vaccine is available for large-scale vaccination. China possesses the technical expertise for rapid diagnosis and epidemiological surveillance, however the problem of a more efficient method to control the disease.

