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Supplemental Information: Novel Coronavirus Linked to Severe Acute Respiratory Syndrome

The Centers for Disease Control and Prevention announced today that laboratory analysis has identified a previously unrecognized coronavirus in clinical specimens from patients with severe acute respiratory syndrome (SARS). Coronaviruses are a common cause of mild to moderate upper-respiratory illness in humans and are associated with respiratory, gastrointestinal, liver, and neurologic disease in several animal species.

Since late February 2003, CDC has been working with the World Health Organization (WHO), international partners at laboratory centers, and ministries of health in an investigation of SARS. As of March 24, a total of 456 cases of SARS and 17 deaths had been reported worldwide, according to WHO.

The new coronavirus was isolated from clinical specimens of two patients with SARS, cultured in Vero E6 cells, and then characterized by several laboratory methods. Electron microscopy showed that the agent has the distinctive shape and appearance of coronaviruses. Testing of multiple sera from each of three patients by indirect fluorescent antibody (IFA) tests showed that all three went from being negative to positive for the new coronavirus; a single convalescent-phase specimen from a fourth patient was also IFA positive. Polymerase chain reaction analysis of other specimens (including nasal and oral swabs and lung tissue) revealed the presence of coronavirus in at least five patients, including two with IFA-positive results. Other serologic tests demonstrated that the new agent reacts with antisera to one of the three known coronavirus serogroups, but sequence analysis suggests that it is distinct from the known coronaviruses.

CDC officials emphasized that the laboratory results announced today are preliminary and do not provide conclusive evidence that the new agent is the cause of SARS. Several laboratories collaborating in the WHO-led investigation had previously reported the isolation of a different virus - human metapneumovirus - from patients with SARS. There is insufficient information at this time to determine what role the new coronavirus or metapneumovirus has in the cause of SARS.

Additional information about SARS is available at CDC's web site: <http://www.cdc.gov/ncidod/sars/>.

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national and international organizations.

DEPARTMENT OF HEALTH AND HUMAN SERVICES