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To: Kern County Health Care Providers

**RE: Novel Influenza A H1N1 Antiviral Treatment**

**If pandemic 2009 (H1N1) disease is suspected, it is strongly recommended that antiviral treatment should not be delayed by influenza diagnostic testing.**

Although antiviral treatment is most effective when initiated within 48 hours of influenza illness onset, studies have shown that hospitalized patients still benefit when treatment with oseltamivir is started more than 48 hours after illness onset. Outpatients, particularly those with risk factors for severe illness who are not improving, might also benefit from antiviral treatment initiated more than 48 hours after illness onset.

All hospitalized patients with suspected or confirmed 2009 H1N1 should receive antiviral treatment with a neuraminidase inhibitor – either oseltamivir or zanamivir – as early as possible after illness onset. Moderately ill patients and those who appear to be getting worse can also benefit from treatment with neuraminidase inhibitors. Those at risk for severe illness include:

- Children younger than 5, especially children younger than 2 years old
- Adults 65 years of age and older
- Pregnant women
- People who have chronic medical conditions including:
  - Asthma
  - Neurological and neurodevelopment conditions [including disorders of the brain, spinal cord, peripheral nerve, and muscle such as cerebral palsy, epilepsy (seizure disorders), stroke, intellectual disability (mental retardation), moderate to severe developmental delay, muscular dystrophy, or spinal cord injury].
  - Chronic lung disease (such as chronic obstructive pulmonary disease [COPD] and cystic fibrosis)
  - Heart disease (such as congenital heart disease, congestive heart failure and coronary artery disease)
  - Blood disorders (such as sickle cell disease)
  - Endocrine disorders (such as diabetes mellitus)
  - Kidney disorders
  - Liver disorders
  - Metabolic disorders (such as inherited metabolic disorders and mitochondrial disorders)
  - Weakened immune system due to disease or medication (such as people with HIV or AIDS, or cancer, or those on chronic steroids)
  - People younger than 19 years of age who are receiving long-term aspirin therapy

Groups at higher risk of developing severe disease include children younger than two years old and pregnant women with preexisting medical conditions. Pregnant women are at increased risk for complications, such as; spontaneous abortion, preterm birth, and fetal distress. Also included are



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people with lung diseases, metabolic disorders, weakened immune systems and certain neurological conditions. H1N1 also poses greater risk of complications in obese individuals and disadvantaged populations. **These patients with suspected or confirmed 2009 H1N1 infection need closer observation and antiviral treatment as early as possible.**

Although antiviral medications are recommended for treatment of 2009 H1N1 in patients with risk factors for severe disease, some people without risk factors may also benefit from antivirals. Not yet recorded in Kern County, the CDC reports to date that roughly 40% of children and 20% of adults hospitalized with complications of 2009 H1N1 did not have risk factors. Risk factors in previously healthy persons that predict increased risk of progressive disease or severe complications are not completely understood.

The bulk of admissions and fatalities for respiratory complications from seasonal flu are people over the age of 65. Due to most people today having little or no immunity to 2009 (H1N1), studies are suggesting that the pandemic is severely affecting a wider range of ages than has been previously seen with influenza. Symptoms can range from a mild headache and sore throat with or without fever to rapidly progressive, life-threatening pneumonia. Even though the majority of people infected with 2009 H1N1 will develop mild to moderate disease, the virus is still capable of causing life threatening complications in children and young to middle-aged adults.

The 2009 H1N1 virus is capable of infecting the lower respiratory tract, heightening the risk of lung disease and respiratory failure. According to reports, diagnosing H1N1 may be more difficult in patients with lower respiratory illness because initial laboratory tests sometimes fail to pick up the infection in specimens from the nose and throat. Samples from the trachea and bronchi may provide a more accurate test result.

Commercially available diagnostic tests that produce a rapid result may not detect many infections. These tests should not be the only diagnostic method used to determine treatment or discontinue infection control measures. The earlier antiviral treatment is administered, the greater the effectiveness for the patient. Although pediatric oseltamivir suspension is in short supply, there are also oseltamivir capsules that can be compounded and mixed with syrup at home.

For more information, please visit the Doctor's Corner on the Kern County Department of Public Health website at <http://www.kernpublichealth.com/departments/cdc/H1N1.html>.

Should you have any additional questions, comments, or concerns please feel free to contact the Kern County Department of Public Health, Communicable Disease Control at (661) 868-0420.

Sincerely,

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