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Date: June 1, 2012 **(2 pages)** – *replaces version released May 30, 2012*

To: All North Carolina Health Care Providers
From: Megan Davies, MD, State Epidemiologist
RE: Hand, Foot, and Mouth Disease

With the summer months approaching, providers are likely to see an increased number of patients presenting with hand, foot, and mouth disease (HFMD). This memo is intended to provide general information about HFMD, an update regarding recent reports of more severe or atypical HFMD caused by coxsackievirus A6, and public health recommendations.

General Information about Hand, Foot, and Mouth Disease:

Who: HFMD generally affects children younger than 5 years of age, but can sometimes occur in older children and adults.

What: Symptoms include fever, malaise, poor appetite, blisters or sores in the mouth (herpangina), and a skin rash often found on the palms of the hands and soles of the feet. Asymptomatic infections can also occur. There is no specific treatment; however, some individuals may require intravenous fluids for dehydration caused by painful mouth sores. HFMD has also been associated with temporary fingernail or toenail shedding several weeks after infection.

When: HFMD occurs throughout the year, but outbreaks typically occur in the spring, summer and fall months.

How: The viruses that cause HFMD can be spread from person to person, or from objects and surfaces that an infected person has touched. The virus is present in the saliva, sputum, nasal mucus, fluid in blisters, and stool of infected persons. Both symptomatic and asymptomatic individuals may shed virus in their stool for several weeks after infection.

Why: HFMD is caused by various enteroviruses. The most common cause of hand, foot and mouth disease in the United States is coxsackievirus A16. Enterovirus 71 has been commonly associated with HFMD outbreaks internationally. Although HFMD is usually diagnosed clinically, a nasopharyngeal swab, oropharyngeal swab, vesicular fluid or stool specimen may be collected for virologic testing (e.g., enterovirus PCR) in severe, atypical or complicated cases.

Update: Coxsackievirus A6

Coxsackie virus A6 (CVA6) has resulted in outbreaks of atypical HFMD internationally since 2008. CVA6 has been associated with more severe and extensive rash than typically seen with HFMD, and frequently affects adults as well as children. A recent CDC report describes the first documented outbreaks of CVA6 in the United States during November 2011 through February 2012. Since that time, CVA6 has been identified in several states, including North Carolina.

There are no specific treatment or control measures for individuals with HFMD caused by CVA6 beyond those recommended for individuals with typical HFMD (listed below). Providers who identify cases or clusters of severe or unusual HFMD are asked to contact their local health department.

Public Health Recommendations

1. Individuals with suspected hand, foot and mouth disease should be instructed to remain at home until their fever resolves; children should be kept home from child care and school until their fever resolves and they are well enough to participate in normal activities.
2. Individuals should be reminded that they can continue to shed virus in their stool for several weeks, and to be vigilant about sanitation and hygiene.
3. All individuals should wash hands with soap and water carefully and frequently, especially after going to the bathroom, after changing diapers, and before preparing foods or beverages.
4. Disinfect surfaces and items, including toys. First wash the items with soap and water; then disinfect them with a fresh solution of 1 tablespoon of bleach and 4 cups of water.
5. Avoid close contact such as kissing, hugging or sharing eating utensils or cups with infected people.
6. Report cases of unusually severe cases of hand, foot and mouth disease to your local health department.

References:

CDC, Hand Foot and Mouth Disease Homepage: http://www.cdc.gov/hand-foot-mouth/index.html

CDC, Notes from the field: Severe hand, foot and mouth disease associated with coxsackie A6 --- Alabama, Connecticut, California and Nevada, November 2011 – February 2012. MMWR 2012;61:213-4. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6112a5.htm