In recent months, the Centers for Disease Control and Prevention (CDC) has reported a number of cases of human infection with a novel strain influenza A (H3N2v) virus (www.cdc.gov/mmwr/preview/mmwrhtml/mm6051a4.htm?s_cid=mm6051a4_w).

From Aug. 17 to Dec. 23, 2011, the H3N2v virus was identified in 12 individuals from five states (Indiana, Iowa, Maine, Pennsylvania and West Virginia). Eleven of those infected were children, and the median age of cases was 3 years old. All 12 fully recovered.

The severity of illnesses associated with H3N2v has been similar to that associated with seasonal influenza virus infections. While most respiratory infections with this novel virus have been mild, three people with H3N2v have been hospitalized, all of whom had underlying medical conditions. No deaths have been associated with H3N2v.

Limited serologic studies conducted to date have indicated that adults may have some pre-existing immunity to this virus, while children do not. Children, especially elementary school age and younger, are therefore likely to be more vulnerable to the H3N2v influenza virus.

The emergence of the H3N2v virus is the result of existing viruses exchanging genetic material through a process called reassortment. Reassortment typically occurs when an animal or human host becomes infected with two or more different influenza viruses at the same time. This allows the influenza viruses to mix and exchange genetic information with each other, which in turn, can result in the emergence of new influenza viruses. Since pigs can be infected with and spread influenza viruses from birds, other pigs and humans, they can represent a source for influenza virus reassortment to occur.

This is particularly true in environments where humans, pigs and birds come into close contact with one another, such as farms.

Influenza viruses identified in swine are referred to as “swine influenza” viruses. When these swine influenza viruses are identified in humans, they will be referred to as “variant” viruses and denoted with the “v.”

Investigations undertaken by the CDC have revealed infections with these viruses in humans following contact with swine as well as limited human-to-human transmission. There has been no evidence of sustained human-to-human transmission. However, since all influenza viruses have the capacity to mutate, it is possible that this virus may become widespread.

Although nonhuman influenza virus strains rarely result in sustained human-to-human transmission, the consequences of such transmission between humans are potentially very serious. To reduce this risk, the immediate identification and investigation of sporadic human infections with novel influenza viruses are necessary.

At this time, no data indicate that the transmission characteristics of H3N2v viruses differ from those of seasonal influenza viruses. Therefore, the same infection control principles and actions recommended for the prevention of seasonal influenza would apply for the prevention of H3N2v. CDC data suggest that the seasonal influenza vaccine provides limited protection against H3N2v in adults and no protection in children.

No widespread community outbreaks have been detected. Investigations are ongoing, and the CDC is monitoring human infections with all novel influenza viruses, including H3N2v viruses.

Dr. Bernstein is an ex officio member of the AAP Committee on Infectious Diseases and Red Book associate editor.