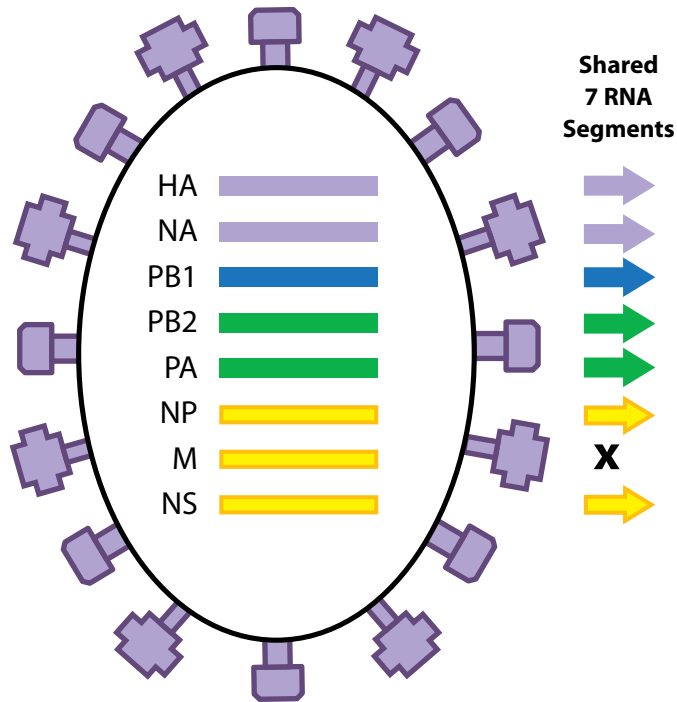


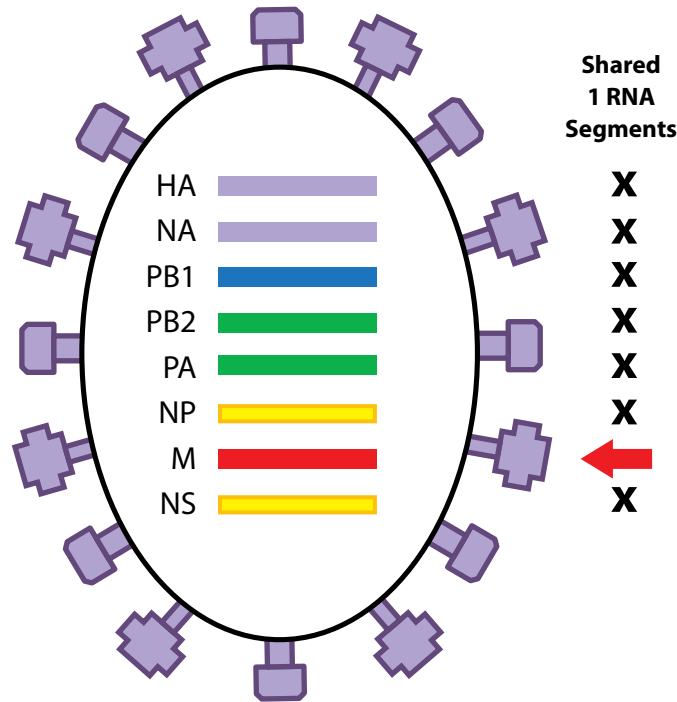
The human cases of swine-origin H3N2 influenza in Indiana and Pennsylvania resulted from existing influenza viruses exchanging genetic material through a process called “reassortment”

(Influenza A viruses have 8 RNA segments: HA, NA, PB1, PB2, PA, NP, M, NS)

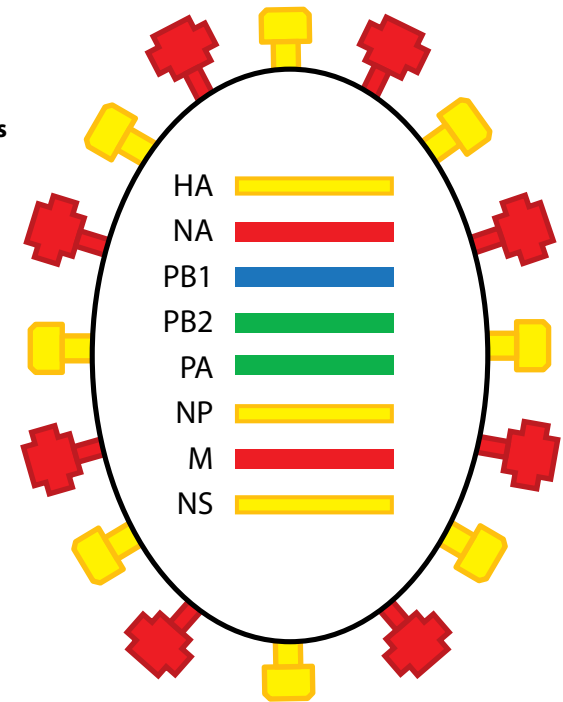
1998-2011 Swine H3N2 triple reassortant viruses



2011 human cases of swine-origin H3N2 influenza in Indiana and Pennsylvania



Pandemic 2009 H1N1 viruses



Hemagglutinin (HA) protein*

Neuraminidase (NA) protein*

RNA segments shared between viruses

RNA segments not shared between viruses

Human origin HA and NA (antigenically and genetically different from those of current human H3N2 viruses)

Human PB1

Avian - North American

Classical swine - North American

Swine - Eurasian

The human cases of swine-origin H3N2 influenza in Indiana and Pennsylvania contain the “M” RNA segment from the 2009 H1N1 virus and 7 RNA segments from swine H3N2 triple-reassortant viruses.

* The RNA segments for HA and NA determine the structure of the HA and NA proteins on the surface of influenza viruses.