**The Causal Effects of pH1N1 Vaccination**

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We will investigate the causal effects of a patient's likelihood to receive the new pH1N1 vaccine. pH1N1 is a virus strain that can cause the seasonal flu recognized in 2009 as swine flu. The virus caused over 575,400 deaths in its first year in circulation, which led the World Health Organization to declare pH1N1 a pandemic (Mayo Clinic 2021). The FDA approved four pH1N1 vaccines in September 2009 (CDC 2021). Our causal research questions of interest include, (1) Does receiving the seasonal flu vaccine affect receiving the pH1N1 vaccine? and (2) Does receiving a doctor's recommendation affect receiving the pH1N1 vaccine?

We will utilize data from the National 2009 H1N1 Flu Survey (NHFS) to explore our research questions. The survey was sponsored by the National Center for Immunization and Respiratory Diseases (NCIRD) and administered by NCIRD and the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC). The population of interest includes people six months and older residing in the United States at the time of the interview. The sample consists of 26,707 participants selected from a list-assisted random-digit-dialing telephone. Participants include households spanning all 50 states and the District of Columbia.

The telephone survey was administered between October 2009 through June 2010. In the survey, participants were asked whether they received the new pH1N1 vaccine and the regular flu vaccine. Additional questions were asked covering personal background and opinions on public health measures, risks, and vaccinations. The survey includes a total of 38 variables.

In addition to the publicly available dataset, we will utilize additional CDC references, including information about the flu and the seasonal flu vaccine to explore our research questions and investigate the causal effects.