

Name: _____

UIN: _____

Note: You are highly encouraged to discuss and solve this problem with your neighbor.

Can we improve productivity and employee well-being using prevention? For a first order evaluation of that question, a researcher investigates how **vaccination against the flu (X)** affects the **propensity to get sick with the flu (Y)**. The problem is economically relevant since the disease burden is large and most of the costs is due to lives lost and foregone work. The researcher knows in a company setting who was vaccinated and who was sick with the flu and she wants to run the following **ordinary least square (OLS)** regression:

$$\text{Sick with Flu}_i = \beta_0 + \beta_1 \text{Vaccinated}_i + \varepsilon_i$$

List as many potential omitted variables as possible (when OLS is used).

Omitted Variable

Is the following a VALID instrument?

- Offer vaccination to every employee
- Mandatory random vaccination of individuals
- Random offers to get vaccinated to some employees