

1) Pfizer has invented an antiviral treatment for COVID-19, known as Paxlovid. When administered within three days of symptom onset, the survival rate in patients has been 100 percent (although some were hospitalized). Prior to Paxlovid, the majority of the population was coping with the disease by engaging in prevention behaviors such as vaccinations or other behaviors including mask wearing, quarantining health persons due to their contact infected patients, and staying at home.

- a. Is it possible that making Paxlovid available to the general public would increase deaths from COVID-19?
- b. What will Paxlovid do to prevention behaviors? Will the vaccine be obsolete? As part of your answers, contrast the behavior of young people, who can expect little health cost from the disease even without prevention or treatment, and old people.
- c. To the extent that vaccines and Paxlovid coexist in the market, how will other prevention behaviors be different between the vaccinated and the unvaccinated?
- d. Will the expected cost of the disease be different for the unvaccinated and the vaccinated? What about the composition of disease costs?
- e. What factors determine the price elasticity of demand for Paxlovid?
- f. Does the invention of Paxlovid affect the likelihood that COVID-19 will be eradicated [specifically that the human population would go more than 14 days without any new cases]?
- g. Consider an individual that chooses not to be vaccinated. Does this choice impose a negative externality on others by increasing the likelihood that the individual will spend time in a hospital seeking treatment for COVID-19?

2) *True, False, or Uncertain:* In a competitive cigarette market, a \$1-per-pack excise tax levied on manufacturers would not increase market-average retail cigarette prices by more than \$1 per pack.