

General Analytics exam:

You are a health insurance company with a **monopoly** on health insurance in the state of Texas. Everyone in Texas either has an insurance plan through your company, or they are uninsured. You have access to health insurance plan status and corresponding demographic data for 10,000 Texas residents. You also have county-level demographic profiles and insurance rates for the entire state.

Question 1:

Your Data Science has been doing some initial investigation into the data and presenting some initial findings. 2 of your colleagues are disagreeing. One says Latinos are less likely to be insured, the other says that people with lower educational achievement are less likely to be insured. How would you explain your best answer to this question?

Question 2:

The company is now given the opportunity to expand into the Houston media market. For the sake of this exercise, assume no one in the Houston media market has insurance currently but their behaviors resemble that of the rest of the state. The county insurance rate table does include Houston media market counties but those can be ignored here. Using the data available to you, construct a targeting strategy to maximize the number of people that will receive insurance. You can assume that you will be able to do outreach at the individual level.

There are two deliverables for this work. First, prepare release notes for internal stakeholders in your organization, including non-technical personnel. Please include relevant information on how to use the score effectively as well as any relevant validation. Separately include a file ranking the 2,500 provided people in the Houston media market for outreach.

Supporting Information

Plans available in TX (inclusive):

- Plan Red
- Plan Blue

Data:

- 7,500 individual-level records of Texas residents you've conclusively identified as having one of the following:
 - Plan Red
 - Plan Blue
 - No insurance
- County-level census demographic information and insurance rates.
- 2,500 individual level records with no insurance information in the Houston media market.