**Biostatistics/Epidemiology 536**

**Autumn 2024**

**Data Analysis Project in Assigned Groups**

You are assigned into groups of 4-5 students for this project. Your group should work together to write an “Extended Abstract” reporting your analysis. Group members should contact each other and develop a plan to proceed. You may only discuss the project with members of your group. Direct all questions to the course instructors.

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Your collaborators have conducted a case-control study of pulmonary tuberculosis (TB) in a country with high TB burden. After several TB control programs have been implemented, researchers are interested in which exposures appear associated with TB. Of particular interest are the sociodemographic factors that affect risk of TB so that future control programs can be better targeted. Since TB is spread through the air, they are particularly interested in whether the number of windows in the home is an important risk factor. This is the study question you are asked to address.

Cases are newly registered, bacterially-confirmed incident cases. Study controls are sex- matched individuals who had attended the same health care facility for non-TB related health concerns. All study participants completed a questionnaire and were examined by the investigative team for presence or absence of a characteristic scar produced by BCG vaccination. BCG vaccination has been shown to be effective at protecting against TB.

Your collaborators would like you to analyze the data and write a paper addressing the study question.

This is a class project, and it is understood that most/all students have no background in tuberculosis infection, BCG vaccination, etc. A literature review is beyond the scope of this project, although you should of course cite any references as appropriate and avoid plagiarism.

The dataset **tbdata** (N=500) contains the following variables for the study participants:

\*case 1=case; 0=control

\*age age in years

\*male 1=male; 0=female

lowEducation low level of education; 1=yes; 0=no

income household income; categorical: low, mid, high

smoke 1=yes; 0=no

hospAdmission history of hospital admission in last 12 months; 1=yes, 0=no

\*famSize number of people living in home; categorical: <4; 4-6; >6

workOutHome work outside the home; 1=yes, 0=no

\*BCG presence or absence of BCG vaccination scar; 1=yes, 0=no

\*roomNo Number of rooms in home; categorical: 1, 2, 3+

\*windowNo Number of windows in home; categorical: 0,1,2-3, 4+

\*houseMemberTb Member of household diagnosed with TB; 1=yes, 0=no

Each group should work together to produce a single Extended Abstract that addresses the study question. Follow the instructions in the Extended Abstract document.