Depression among medical students in Faculté de Médecine d'Antananarivo

Background : Depression is one of the big public health problems and affects 300 million people worldwide . It concerns 27,8 % of medical student population arround the world.

Statistical question : What are the determinants of depression in medical students in Faculté de médecine d'Antananarivo?

Mechanistic model : How do the year of study affect the occurrence of depression in Faculté de médecine d'Antananarivo?

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Statistical model

Question: What are the determinants of depression in medical students in Faculté de médecine d'Antananarivo?

Family = Binomial
Link = Logit

Response variable : depressed/not depressed
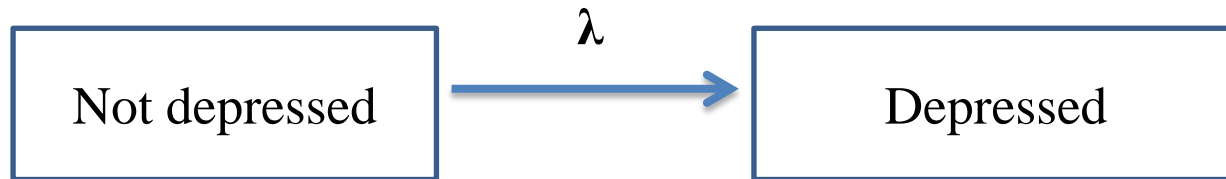**Predictors variables :** Years of study, mental health_background, gender.

Hypothsis: year of study, mental heath backgrounds and female gender increase the prevalence of depression among medical students.

R code :
glm (depression Y/N~years_of_study + mental_health_background Y/N + genderM/F, family="binomial")

Mechanistic model

Mechanistic model : How do the year of study affect the occurrence of depression in Faculté de médecine d'Antananarivo

λ

$$\boxed{\begin{array}{l}\text{Not depressed} \end{array}} \xrightarrow{\lambda} \boxed{\begin{array}{l}\text{Depressed} \end{array}}$$

$$\frac{dD}{dY} = \lambda(Y)(\ 1 - ND\ (Y))$$

With:

- λ: Depression rate
- D: Depressed
- ND: Not depressed
- Y: year of study

Next spteps

- Collect data from medical students in Faculté de Médecine d' Antananarivo, using a selfquestionnaire.

- Determine the prevalence of Depression

- Fit the mechanistic model to understand the dynamic year of study/depression prevalence