Introduction to R software
Session II

Teaching Assitant: Manasa Shanta Yerramalla - manasa-shanta.yerramalla@inserm.fr
Coordination : Nolwenn Le Meur – nolwenn.lemeur@ehesp.fr

Objectives: The objectives of this lab are to compute and interpret confidence intervals with R software.

A- Reminder: how to create a new R script, import dataset, transform variables

1. After launching the software, use the drop-down menu to open the script of the last R lab.
2. Use the drop-down menu to create a new script for lab 2, specify the working directory using the command **setwd()** , save the script using the drop-down menu.
3. From the previous script, copy and paste the code for lab 1 to lab 2 script:
   - Read the data file in R and name the object SleepQualityData using **read.csv()**.
   - Check that data has well imported displaying data.
   - Transform data into the right type: character, factor.
4. Run that code in the console
5. Save the transformed data into a R object using the command **save(**SleepQualityData**, file="** SleepQualityData**.Rdata).**

B- Descriptive bivariate analysis – the effect of sleeping in his/her own room on the sleep quality

1. Describe the **sleep_quality** variable (mean, standard deviation, median, quartiles,…) and draw its distribution.

2. Describe the **singleroom** variable (N, %).

3. Install the R library “epiDisplay” using **install.packages()**.

4. Compute the 95% confidence interval of the proportion of children with single room using **ci()**.

6. Describe the distribution of **sleep_quality** variable for each category of **singleroom** using the function **by()**.

7. Compute the 95% confidence interval of the mean of **sleep_quality** variable for each category of **singleroom** using **by()** and **ci**.

8. Draw the boxplot of the **sleep_quality** distribution by **singleroom** group specifying a main title and titles for axis. Interpret it.