**CEMA Internship – Epidemiology Track Task**

As an initial task at the Center for Epidemiological Modeling and Analysis, you are presented with a dataset from an epidemiological research project, **"Analyzing Regional Trends in Influenza-Like Illness (ILI) in Kenya: A Quantitative Epidemiology Case Study."** The study collected data on year (2023-2024), the epidemiological week (epi\_week), county, age categories (age\_group), percentage of outpatient visits due to ILI (ili\_percentage), and the estimated population for that age group in that county (population).

**The objective is to evaluate temporal and county-specific ILI trends and interpret the findings to inform public health decisions.**

As an epidemiologist, you are interested in accomplishing the following:

1. **Descriptive analysis**
2. Compute a table showing the mean ILI percentage per county per year.
3. A plot of ILI weekly trend identifying the peak ILI weeks across counties and describe in 3-5 sentences the seasonal pattern of ILI cases.
4. **Computing epidemiological measures**
5. Calculate the incidence rates per 100,000 population across any three counties.
6. Using any statistical method you are familiar with, compare ILI percentages across any three counties.
7. **Communicating results**
8. Summarize your findings in 5-10 sentences (it is always good to incorporate any visualizations [charts/tables], key findings, interpretation, and a possible public health response).