

# BETTY CHEPKIRUI

## Problem Statement for SDG 3: Good Health and Well-Being

### Problem Statement:

#### High Maternal Mortality Rates in Rural Areas of Developing Countries

**Description:** Despite global progress in reducing maternal mortality, women in rural areas of developing countries continue to face disproportionately high risks during childbirth. Lack of access to quality prenatal care, skilled birth attendants, and emergency obstetric services contributes to a high number of preventable maternal deaths. This problem is exacerbated by poverty, inadequate healthcare infrastructure, cultural practices, and insufficient health education. Addressing this issue is critical to achieving SDG 3, as it ensures that all women, regardless of their location, have the opportunity to experience safe and healthy pregnancies and childbirths.

## Process of Importing Data into Excel and Ensuring Consistency

### 1. Importing Data into Excel

#### Step 1: Open Excel

- Launch Excel from your desktop or start menu.

#### Step 2: Import the CSV File

- Go to the **File** menu and select **Open**.
- Navigate to the location where your CSV file is stored.
- Select the file (**regions.csv**) and click **Open**.
- The data will be automatically imported into a new Excel worksheet, with the first row being recognized as column headers (e.g., **patient\_id**, **patient\_name**, **age**, **address**, **region**).

#### Step 3: Review the Imported Data

- After importing, check that all data has been correctly loaded into Excel.
- Ensure all columns are present, and the data is properly aligned under each header.
- Scroll through the data to confirm that there are no missing rows or misaligned entries.

### 2. Ensuring Data Consistency

Once the data is imported, ensuring consistency is essential for accurate analysis. Here's how you can maintain data consistency in Excel:

### Step 1: Format the Data

- **Ensure Consistent Data Types:**
  - Numbers: Select columns like **age** and ensure they are formatted as numbers. Right-click on the column header, choose **Format Cells**, and select **Number**.
  - Text: For columns such as **patient\_name**, **address**, and **region**, ensure they are formatted as text. Right-click on the column header, select **Format Cells**, and choose **Text**.

### Step 2: Remove Duplicates

- **Eliminate Redundant Data:**
  - Select the entire dataset or specific columns where you expect no duplicates (e.g., **patient\_id**).
  - Go to the **Data** tab and click on **Remove Duplicates**.
  - In the dialog box, select the columns to check for duplicates, then click **OK** to remove any duplicate rows.

### Step 3: Standardize Entries

- **Correct Inconsistent Text Entries:**
  - Use the **Find and Replace** tool (Ctrl+H) to correct any inconsistent spelling or capitalization in text fields like **region**.
  - For instance, if some entries say "northern region" and others "Northern Region," use Find and Replace to standardize them to "Northern Region."

### Step 4: Apply Data Validation

- **Restrict Data Entry to Specific Values:**
  - For fields like **region**, set up data validation to ensure only predefined values can be entered.
  - Select the column, go to the **Data** tab, and click **Data Validation**.
  - Choose **List** under **Allow** and input the valid region names (e.g., "Northern Region, Capital City, Eastern Region").

### Step 5: Handle Missing Data

- **Identify and Address Missing Values:**
  - Use Excel's **Filter** or **Conditional Formatting** to highlight any blank cells.
  - Decide how to handle missing data: fill in with averages, specific values, or leave them blank if appropriate for your analysis.

### 3. Testing Data Consistency

After ensuring data consistency, it is important to test the data to confirm that everything is correct.

#### Step 1: Create a Summary Pivot Table

- Generate a PivotTable to summarize the data (e.g., count of patients by region) and ensure the results are as expected.
- Go to **Insert > PivotTable**, select your data, and place it in a new worksheet or the current one.

#### Step 2: Cross-Check Data

- **Manual Review:** Compare a few rows from the imported Excel data against the original CSV file to ensure that no data was altered or lost.
- **Formulas:** Use Excel formulas like **VLOOKUP** or **COUNTIF** to verify that key data points are consistent and correctly aligned.

#### Step 3: Generate a Chart

- Create a simple chart (e.g., a bar chart) to visually inspect the data and check for any anomalies that might indicate inconsistency.

### 4. Documenting the Process

Maintaining documentation of the import process and consistency checks is vital for transparency and repeatability.

#### Step 1: Keep a Record

- Document the steps taken, including any issues encountered and how they were resolved.
- Include notes on formatting, duplicate removal, and validation rules applied.

#### Step 2: Save the File

- Save the Excel workbook with a clear and descriptive name to ensure that it can be easily identified and referenced in the future.