Table of Contents

[SECTION A: EXPLORATORY DATA ANALYSIS 2](#_heading=h.gjdgxs)

[SECTION B: DATA COLLECTION AND ANALYSIS PLAN 5](#_heading=h.30j0zll)

[SECTION C: DIGITAL TRANSFORMATION 6](#_heading=h.1fob9te)

**Instructions:**

**ANSWER ALL QUESTIONS**

**Submit the working files, datasets, scripts and documents in a zip file via email.**

**You have 2 days to work on the tasks.**

## 

## SECTION A: EXPLORATORY DATA ANALYSIS

Question 1: Exploratory Data Analysis (20 Marks)

There was a recommendation from the funding and technical agencies, that HIV prevention activities should reach a key population 4 times per year (twice in 6 months). The national program manager is requesting you extract data from the prevention database to know the historical data on the average frequency of HIV prevention reach per year to a key population within the last three years (2021,2022 and 2023), disaggregated by each key population.

Please use the “Prevention\_Data,xlsx” file to do the analysis.

Important note: a client will be counted as prevention reach only if they received all of the following:

* HIV Prevention Education
* Condom and Lubricant Distribution
* HTS information and referral
* STI information and referral
* Information on PrEP and PEP

**Your tasks:**

* **To do exploratory data analysis**
* **To communicate the findings with engaging visuals**
* **To write a paragraph of recommendations based on the findings**

**You can use Microsoft Excel, SPSS, R, Stata, Python, or Power BI as relevant. Please attach the underlying file and/or scripts while submitting.**

Question 2: Data Visualization (10 Marks)

Use the data below and create a visual to show the following:

* On ART
* Viral Load Tested
* Viral Load Testing coverage among those on ART
* Viral Load Suppression
* Viral Load Suppression % among those tested viral Load

**Note: You can create only one chart/graph to cover all the information above nicely, and make sure that the chart shows the yearly trend. You can use Microsoft Excel, SPSS, R, Stata, Python, or Power BI as relevant. Please attach the underlying file and/or scripts while submitting.**

| Year | on ART | Viral Load Tested | PLHIV who have viral suppression |
| --- | --- | --- | --- |
| 2015 | 106490 | 9700 | 8421 |
| 2016 | 127402 | 37575 | 34678 |
| 2017 | 146826 | 44048 | 38861 |
| 2018 | 166969 | 89760 | 82306 |
| 2019 | 184624 | 133468 | 126167 |
| 2020 | 199345 | 96911 | 93034 |
| 2021 | 191588 | 40682 | 39461 |
| 2022 | 208480 | 60260 | 57763 |

Question 3: Data Wrangling (10 Marks)

**Use the data set “life\_expectancy\_dataset.xlsx” and convert the existing wide format to a long format. (You can use Microsoft Excel, SPSS, R, Stata, Python, or Power BI as relevant. Please attach the underlying file and/or scripts while submitting.)**

A screenshot of a computer

Description automatically generated

## SECTION B: DATA COLLECTION AND ANALYSIS PLAN

Question 1: Data Collection Form (20 Marks)

You are requested to create a survey questionnaire to know the consistent condom use among the key populations in Myanmar. The survey will be cross-sectional and planned to be conducted during Jan-Mar 2025. Do some literature search on PubMed to get an idea of the questions to be included in the form.

**Your tasks:**

* **List down the questions that need to be asked**
* **List down the possible pre-defined responses for each question**
* **Create a questionnaire form (either in Microsoft Word or electronic form) based on the questions and pre-defined responses above**
* **The form should consist of data definitions and data validations.**

**Note: If you are creating a paper-based form, submit it in Microsoft Word attached. If you are creating an electronic form, please submit the link to the form.**

Question 2: Data Analysis Plan (20 Marks)

**Write down a summary (one-pager) data analysis plan of the above survey data.**

## SECTION C: DIGITAL TRANSFORMATION

Question 1: Log Frame (20 Marks)

You are part of the country’s healthcare system digital transformation team. The team proposed a digital transformation of the country’s HIV monitoring and evaluation system. As a first step, the team decided to convert the individual HIV care M&E forms (e.g. cards with multiple visits per patient) into a digital way. As you know, the team is a group of healthcare professionals. The team’s expertise is not necessarily in software development. So, there is a need to consult with the software developers to configure and set up the platform. The digital transformation and software development process of the individual HIV Care system was expected to be completed and ready to roll out within 2 years.

Your Tasks:

* Construct a logical framework to predict the required infrastructure, set up important milestones and indicators, and how to monitor the progress.
* Illustrate your monitoring plan with a Gantt chart.

-------------------------------------------------END OF QUESTIONS--------------------------------------------------