Suriname Hospital Statistics

The Excel file **PS1\_SurinameHospital.xlsx** contains data from a sample of hospital inpatient admissions in the year 2001. You will use some of the Excel skills you’ve learned so far to gain deeper insight into the raw data in the file.

The file layout is as follows:

* Rec\_No Unique record identifier number
* HospCode One-letter code for each facility; the country has five in total
* DOB Patient’s date of birth
* Sex M or F
* CardCode Insurance coverage limit (Poor or Near Poor / different reimbursement rate)
* Admit Date of admission to hospital
* Disch Date of discharge from hospital
* LOS Length of stay
* Service Type of service for which admitted
* LOSGroup Length-of-stay groupings (1 day, 2 days, 3-5 days, 6-10 days, etc.)

**Your task**: Using the COUNT and SUM family of functions, and other Excel functions as necessary, figure out some statistics about the hospital admissions in the sample. **Please show your work as much as you can (i.e. when we click on a cell with your answer, the formula should show up). The Excel file is enough, you don’t need to send a separate Word file.**

**You can answer Q1-2 on the original data sheet, and then Q3-9 all on another sheet.**

1. Using the patient’s date of birth, calculate his/her age at time of **admission** to the hospital.
2. Use nested IF statements (or VLOOKUP if you want to try it out) to group the ages into several categories (see Winston chapter 3 on Lookup Functions for VLOOKUP):
   1. Infant (less than 1 year old)
   2. Child 1-4
   3. Child 5-19
   4. Adult 20-44
   5. Adult 45-64
   6. Adult 65 and over
3. Use COUNTIF, SUMIF, and AVERAGEIF to determine the following **by age category**:
   1. Number of patients in each age category and for the population as a whole
   2. Sum of total days across all patients in each age category and for the population as a whole
   3. Average length of stay (ALOS) for each age category and for the population as a whole
4. Use COUNTIF, SUMIF, and AVERAGEIF to determine the following **by hospital**:
   1. Number of patients in each hospital and for the population as a whole
   2. Sum of total days across all patients in each hospital and for the population as a whole
   3. Average length of stay (ALOS) for each hospital and for the population as a whole
5. Use COUNTIF, SUMIF, and AVERAGEIF to determine the following **by service type**:
   1. Number of patients by each service type and for the population as a whole
   2. Sum of total days across all patients by each service type and for the population as a whole
   3. Average length of stay (ALOS) for each service type and for the population as a whole

**Please note: we are looking for you to use Excel functions for questions 6-8. Do not use the filter. Hint: in order to solve part b for Q6-8, you need to do some additional data preparatory work using the MAXIF function. This function is an array function, which means that when you enter the formula, you must press CTRL+SHIFT+ENTER, not just ENTER.**

1. Which age group has the patient with the longest ALOS? The patient with the longest single length of stay?
2. Which hospital has the patient with the longest ALOS? The patient with the longest single length of stay?
3. Which service type has the patient with the longest ALOS? The patient with the longest single length of stay?

\*\***To answer Q9, you should not have to delete any rows/data points from the original spreadsheet.**

1. What would overall ALOS by hospital be without any extreme outliers? (For the purposes of this problem set, we will define “extreme outliers” as any lengths of stay greater than 60 days. There are alternate ways to determine “extreme,” which we can discuss in class.)

You may find the following data tables helpful as you set up your formulas.

**List of service types (13 total):**

Cardiology

Delivery

General Med

Gynecology

Internal Med

Neurology

Newborn

Ophthalmology

Orthopedics

Pediatrics

Pulmonary

Surgery

Urology

**List of hospital codes:**

A

D

L

N

Z

**List of length-of-stay groupings:**

1

2

3-5

6-10

11-20

21-30

31+

(NOTE: in the spreadsheet, the lower values are preceded with a zero so that the data will sort in numerical order.)

**Keep in mind the following:**

* ***Be sure to use Excel functions as much as possible to answer the questions.***
* When using Excel formulas, avoid hand-typing any criteria in your formulas, and refer to cells and ranges instead.
* Place answers to Q1-2 on the original data sheet and all answers for Q3-9 on another sheet in a neat, concise presentation.
* Where possible, apply what we have learned so far. For instance, we have discussed Range Names. This is a perfect opportunity to practice using them.
* Think of presentation as well as the results. Present your answers in as clean and compact a way as possible (for instance, do not repeat the same column labels multiple times; have the labels in one column and refer back to them for your answers to the various parts of questions 3-5). *Reference the pre-readings for Day 1.*