**Dataset for Hospital Call Center (HCC): Problem Statement**

**Background:**

HCC is responsible for handling inbound calls and managing the majority of telephonic interactions with patients seeking care or resolution to issues pertaining to their care at any of the outpatient clinics at a Hospital System. These clinics are composed physicians specializing in various areas of clinical specialization. In call Center, agents supports these clinics by receiving and handling (providing resolution) inbound calls from patients. In this regard, these agents are organized into teams and each team is responsible for an assigned number of specialties. On average, HCC handles about 30,000 inbound calls per week and spends on average 5 minutes handling each call (varies by specialty).

**Problem:**

The call center is stratified into various teams and each team has a number of agents. It is the aim of the call center manager needs to monitor and control the productivity of each agent and team throughout the day. To do so, all details pertaining to various agents’ activities from when they login to the system till they log out is captured and the data is used to evaluate the performance of agents and the call center. The dataset captures 4 weeks of data for agents’ time in the system. The call center operates from 8:00 am to 5:00 pm, Monday through Friday. There are in total 97 agents organized into 6 teams, as described in “Agent Team” Sheet. In “Total logged-in time” Sheet, the agent log-in time report is broken into smaller subsets including “Not Ready Time”, “Ready Time”, “Reserved Time”, “Talk Time”, and “Next Call Prep Time” to track what tasks agents spent time on. Also, the time agents spent on “Not\_Ready\_Time” is broken into 9 smaller subsets, as presented in “Not\_Ready\_Time” Sheet. Finally, the “number of handled calls” and the “average handle time” is provided in “Handled\_Calls&Handle\_Time” Sheet. Please refer to the “Data Definition” Sheet for a detailed description of the data fields.

Utilize this dataset to answer the three questions below.

1. Conduct exploratory (descriptive) data analysis and summarize your key findings.
2. Based on your findings from the descriptive data analysis, list the key questions that you think the HCC manager can ask using this data.

Examples of questions you can ask using this data:

* What percentage of logged-in time on average did agents/teams spend on each task per time interval (on daily/weekly basis)?
* What is agents/teams utilization rate (on daily/weekly basis)? How about non-utilized time?
* What is the number of FTEs and the number of agents working per time interval (on daily/weekly basis)?

1. Is it possible to define a model for productivity using the provided variables? Elaborate.
2. Create a dashboard (with informative drilldowns) to enable business leaders to answer the questions you identified above.