# Define Data – Analysis & Visualization

## Type of Data

* **Date**: Each day the clinic was open, and a particular dentist was working on that day
* **Unit**: 1 unit is defined as 10 minutes of time-section
* **Available Units**: The number of units (10-minute intervals) the service provider was in the clinic available to take a patient/client [\*does not include any blocked time periods like lunch]
* **Downtime Units**: Number of units the service provider was available but did not take a patient (Non-Productive Hours)
* **Gross Production**: Total revenue of the day

## Statistics to analyse performance

* **Downtime Percentage**: (Downtime Unit/Available Unit) \*100
* **Productive Units**: Available Unit – Downtime Unit
* **Productive Hours**: Productive Units/6
* **Productive hourly production**: Gross Production/Productive hours

## Questions and Things to consider

* Cleandent SQL Table Name and Table values
* How many units is one patient?
  + How many Productive Units = Number of patients?
* Greater Gross Production might not mean greater patient/less downtime? The service fee might vary with services. This means making decision solely on gross production might be misleading. We will need to factor in the service type
  + Ex: Service A (Cleaning) = $100; Service B (Filling) = $250
    - Monday
      * Available Units = 8\*5 = 37
      * Downtime Units = 34
      * Productive Hours = 0.5 hour (3 units)
      * Type of Service = Service B
      * Gross Production = $250
    - Tuesday
      * Available Units = 8\*5 = 37
      * Downtime Units = 31
      * Productive Hours = 1 hour (6 units)
      * First Type of Service = Service A
      * Second Type of Service = Service A
      * Gross Production = $200
  + Even though Monday has a Greater Downtime, the Gross Production is higher than Tuesday. Does this affect decision making? I
* Is there anything making the service provider late and therefore making the available hour into a downtime? How do we calculate that?
* What are the different types of analysis that could be done

1. Statistical Analysis as above
2. Types of patients/services – what service do the patients come for the most?
3. Types of service vs month – seasonal demand in service
4. Patient Demographics – where are the most patients from?
5. Patient Demographics vs days of the week

## Data Visualization to choose

Diagram

Description automatically generated