

# Analysis of Appointment Scheduling Dataset

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PRESENTED BY: SHARMAINE WONG

**MINISTRY OF HEALTH**

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## Overview of Dataset

Includes information of patients, requesting and appointment dates, and provider roles

Data from week of September 20 – November 9, 2023

Objective: To provide recommendations based on average wait time data analysis



## Importance of Waiting Times

Timely access and availability are significant aspects of an effective healthcare system

Longer wait times are linked to worsening health outcomes

Effective management needed to minimize wait times, improving patient experience and health conditions



# Data Cleaning Process and Insights

## Cleaning Data with Power Query

- **Trim:** Additional spaces removed from Patient names
- **Full Name:** new merged column for Full Name of Patients
- **Transformed column types:** Text, Date, Number format

## Insights

- **Improvement areas:** spaces, data entry validation to reduce errors
- Clarity needed for the usage of **Client ID:** not an unique identifier for each patient
- **Client ID:** ensure unique IDs are allocated to each patient and not the same person

## Approach to Handling Missing Data

- **Inconsistent "0" values** in Client IDs
- Implement **client and appointment IDs**
- **Client IDs aren't unique** to the patient and cause confusion whether duplicate patient names are the same person or not
- Incorporate data entry validation for IDs and Patient Names

## Impact of Missing Data

- Lead to **inaccurate and misleading analysis** of waiting times
- **Wrong person** with the same name may show up at the appointment

# Average Wait Time Dashboard

Year

All

Month

All

Provider

- ☐ MD  
☐ Nurse  
☐ Psychologist

Minimum Waiting Time, Days

1.0

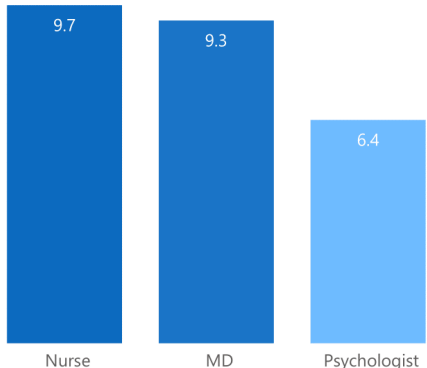
Maximum Waiting Time, Days

40.9

Average Waiting Time, Days

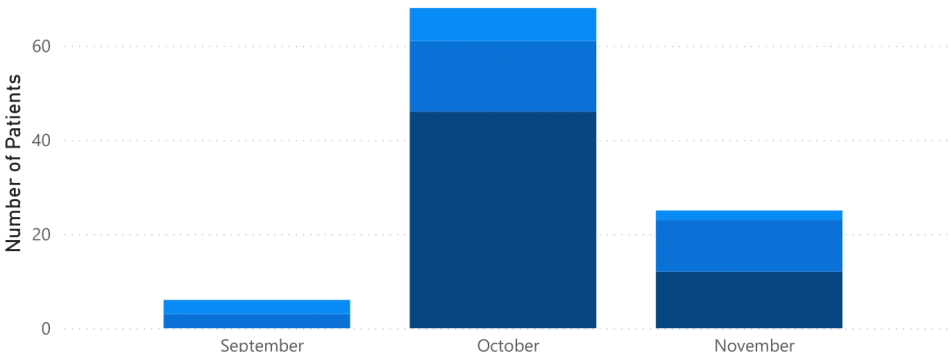
9.1

Average Wait Time by Provider Role, in days

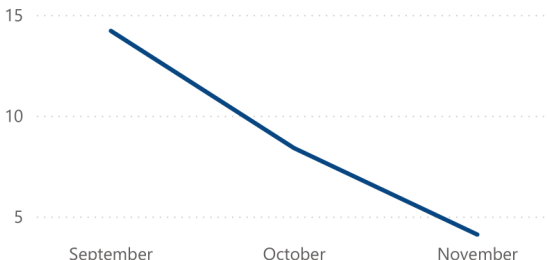


Number of Appointments, by Months and Provider

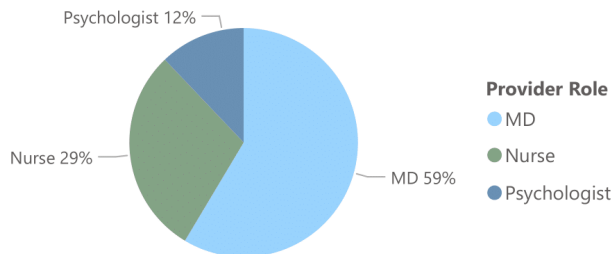
Provider Role ● MD ● Nurse ● Psychologist



Average Waiting Time by Month, in days



% of Appointments by Provider

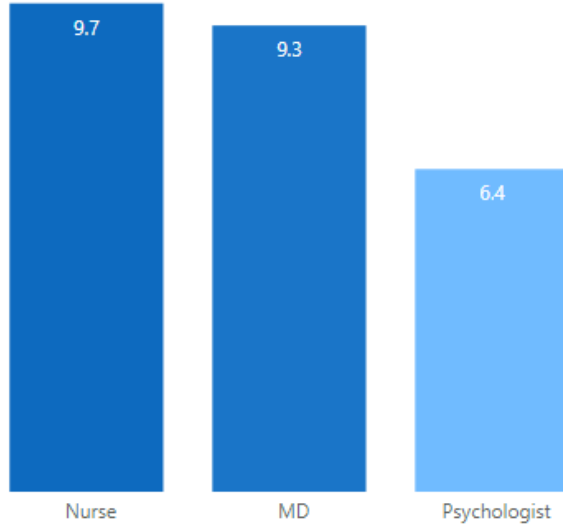


Number of Patients, by Month

Month	Patients
September	6
November	25
October	68
Total	99

# Average Wait Time by Provider Role

Average Wait Time by Provider Role, in days



## Observations

01

Nurse and MDs have the highest average waiting time since requesting date.

02

MDs have double the number of appointments than Nurses.

03

Psychologists have the lowest average waiting time and patients.

04

Hiring additional and on-call MDs & Nurses is suggested to reduce burden.

# Recommendations

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- On average, Nurses and MDs have the highest wait times
- Additional funding, staffing, or equipment to improve efficiency in providing services

Addressing Highest Wait Times



- MDs have the highest amount of patients, meaning there may be higher needs for staffing
- Highest priority is to staff more MDs, as wait time for both are same (number of patients MDs have are double of a nurse)

Addressing High Amount of Patients



- Differentiation made between a Client and Appointment ID
- Further data identification inputs to consider: Age, Gender, Location, Provider Names

Data quality improvement areas

