Investigate_a_Dataset

September 4, 2022

1 Project: Investigate a Dataset - [No-show Appointments]

1.1 Table of Contents

Introduction
Data Wrangling
Exploratory Data Analysis
Conclusions
Introduction
In this project, I will be analyzing data collected from 100k medical appointments in Brasil. The analysis is focused on identifying trends influencing patients to either show up for their appointments or not using their demographic data and some other distinct features.

1.1.1 Dataset Description

This is a brief description of the data used for this analysis. PatientId - unique number given to a patient. AppointmentID - unique identifier for an appointment. Gender - tells us the sex of the patient. 'M' for Male and 'F' for female. ScheduleDay - tells us on what day the patient set their appointment. AppointmentDay - tells us the actual date of the appointment. Age - How old the patient is. Neighbourhood - this indicates the location of the hospital. Scholarship - indicates whether or not the patient is enrolled in Brasilian welfare program. Hipertension - indicates whether or not the patient is hypertensive or not. Diabetes - indicates whether the patient is diabetic or not. Handcap - indicates whether or not the patient is handicapped or not. SMS_received - tells us if the patient received an SMS or not. '0' if the patient didnt and '1' if they did. No-show - Tells us whether the patient showed up for their appointment or not. 'Yes' if they didn't and 'No' if they did.

1.1.2 Question(s) for Analysis

1. Can a patient's gender predict if they would show up for their scheduled appointment?
2. Are patients more likely to show up if they recieve an SMS notification?
3. Which Age group is most likely to miss their appointments?
4. Which neighbourhood had the most no-shows?

In [1]:
```
# importing packages I intend to use

import pandas as pd
import numpy as np
```

```
        import matplotlib.pyplot as plt
        import seaborn as sns

        pd.options.display.max_rows = 9999

        # including a magic word so my visualiztions are plotted in the notebook
        %matplotlib inline
```

```
In [2]: # Upgrade pandas to use dataframe.explode() function.
        !pip install --upgrade pandas==0.25.0
```

```
Requirement already up-to-date: pandas==0.25.0 in /opt/conda/lib/python3.6/site-packages (0.25.0
Requirement already satisfied, skipping upgrade: pytz>=2017.2 in /opt/conda/lib/python3.6/site-p
Requirement already satisfied, skipping upgrade: numpy>=1.13.3 in /opt/conda/lib/python3.6/site-
Requirement already satisfied, skipping upgrade: python-dateutil>=2.6.1 in /opt/conda/lib/python
Requirement already satisfied, skipping upgrade: six>=1.5 in /opt/conda/lib/python3.6/site-packa
```

Data Wrangling

In this section, I will be loading my data and viewing it's various datatypes while keeping an eye out for any possibly errant data.

```
In [3]: # Load your data and print out a few lines. Perform operations to inspect data
        df_noshow = pd.read_csv('./Database_No_show_appointments/noshowappointments-kagglev2-may

        #   types and look for instances of missing or possibly errant data.
        df_noshow.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 110527 entries, 0 to 110526
Data columns (total 14 columns):
PatientId         110527 non-null float64
AppointmentID     110527 non-null int64
Gender            110527 non-null object
ScheduledDay      110527 non-null object
AppointmentDay    110527 non-null object
Age               110527 non-null int64
Neighbourhood     110527 non-null object
Scholarship       110527 non-null int64
Hipertension      110527 non-null int64
Diabetes          110527 non-null int64
Alcoholism        110527 non-null int64
Handcap           110527 non-null int64
SMS_received      110527 non-null int64
No-show           110527 non-null object
dtypes: float64(1), int64(8), object(5)
memory usage: 11.8+ MB
```

In [4]:
```
df_noshow.head()
```

Out[4]:

	PatientId	AppointmentID	Gender	ScheduledDay	AppointmentDay	Age	Neighbourhood	Scholarship	Hipertension	Diabetes	Alcoholism	Handcap	SMS_received	No-show
0	2.987250e+13	5642903	F	2016-04-29T18:38:08Z	2016-04-29T00:00:00Z	62	JARDIM DA PENHA	0	1	0	0	0	0	No
1	5.589978e+14	5642503	M	2016-04-29T16:08:27Z	2016-04-29T00:00:00Z	56	JARDIM DA PENHA	0	0	0	0	0	0	No
2	4.262962e+12	5642549	F	2016-04-29T16:19:04Z	2016-04-29T00:00:00Z	62	MATA DA PRAIA	0	0	0	0	0	0	No
3	8.679512e+11	5642828	F	2016-04-29T17:29:31Z	2016-04-29T00:00:00Z	8	PONTAL DE CAMBURI	0	0	0	0	0	0	No
4	8.841186e+12	5642494	F	2016-04-29T16:07:23Z	2016-04-29T00:00:00Z	56	JARDIM DA PENHA	0	1	1	0	0	0	No

In [5]:
```
df_noshow.describe()
```

Out[5]:

	PatientId	AppointmentID	Age	Scholarship	Hipertension	Diabetes	Alcoholism	Handcap	SMS_received
count	1.105270e+05	1.105270e+05	110527.000000	110527.000000	110527.000000	110527.000000	110527.000000	110527.000000	110527.000000
mean	1.474963e+14	5.675305e+06	37.088874	0.098266	0.197246	0.071865	0.030400	0.022248	0.321026
std	2.560949e+14	7.129575e+04	23.110205	0.297675	0.397921	0.258265	0.171686	0.161543	
min	3.921784e+04	5.030230e+06	-1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
25%	4.172614e+12	5.640286e+06	18.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
50%	3.173184e+13	5.680573e+06	37.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
75%	9.439172e+13	5.725524e+06	55.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
max	9.999816e+14	5.790484e+06	115.000000	1.000000	1.000000	1.000000	1.000000	4.000000	

```
std          0.466873
min          0.000000
25%          0.000000
50%          0.000000
75%          1.000000
max          1.000000
```

```
In [6]: len(df_noshow.columns)
```

```
Out[6]: 14
```

```
In [7]: df_noshow.loc[:, ['PatientId', 'AppointmentID']].nunique()
```

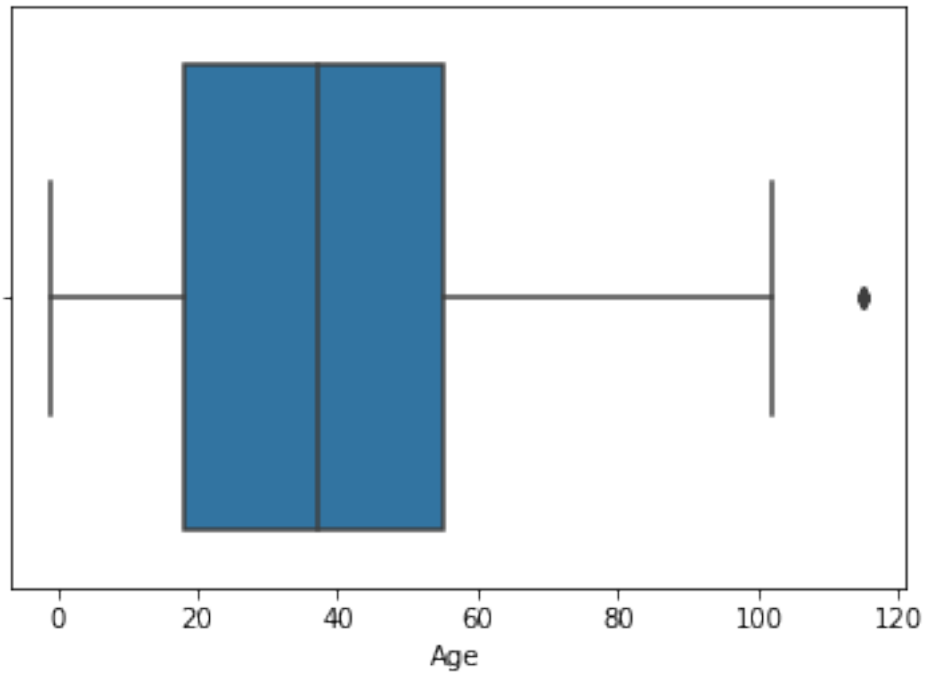
```
Out[7]: PatientId         62299
        AppointmentID    110527
        dtype: int64
```

This dataset contains 14 columns and 110527 data rows. There are no null fields in this dataset

1.1.3 Data Cleaning

The output showed that in the Age column, the youngest person is -1 and the oldest is 115 years old. I am therefore going to plot a boxplot to visually identify any other outliers.

```
In [8]: sns.boxplot(df_noshow.Age)
        plt.show()
```



The boxplot shows that there are outliers after 100 but doesn't identify any under 0.

```
In [9]: #return all entries above 100 in the Age column
        df_noshow [df_noshow.Age > 100]
```

```
Out[9]:           PatientId  AppointmentID Gender          ScheduledDay  \
        58014  9.762948e+14        5651757      F  2016-05-03T09:14:53Z
        63912  3.196321e+13        5700278      F  2016-05-16T09:17:44Z
        63915  3.196321e+13        5700279      F  2016-05-16T09:17:44Z
        68127  3.196321e+13        5562812      F  2016-04-08T14:29:17Z
        76284  3.196321e+13        5744037      F  2016-05-30T09:44:51Z
        90372  2.342836e+11        5751563      F  2016-05-31T10:19:49Z
        97666  7.482346e+14        5717451      F  2016-05-19T07:57:56Z

                     AppointmentDay  Age Neighbourhood  Scholarship  Hipertension  \
        58014  2016-05-03T00:00:00Z  102     CONQUISTA            0             0
        63912  2016-05-19T00:00:00Z  115    ANDORINHAS            0             0
        63915  2016-05-19T00:00:00Z  115    ANDORINHAS            0             0
        68127  2016-05-16T00:00:00Z  115    ANDORINHAS            0             0
        76284  2016-05-30T00:00:00Z  115    ANDORINHAS            0             0
        90372  2016-06-02T00:00:00Z  102   MARIA ORTIZ            0             0
        97666  2016-06-03T00:00:00Z  115      SÃO JOSÉ            0             1

               Diabetes  Alcoholism  Handcap  SMS_received No-show
        58014         0           0        0             0      No
        63912         0           0        1             0     Yes
        63915         0           0        1             0     Yes
        68127         0           0        1             0     Yes
        76284         0           0        1             0      No
        90372         0           0        0             0      No
        97666         0           0        0             1      No
```

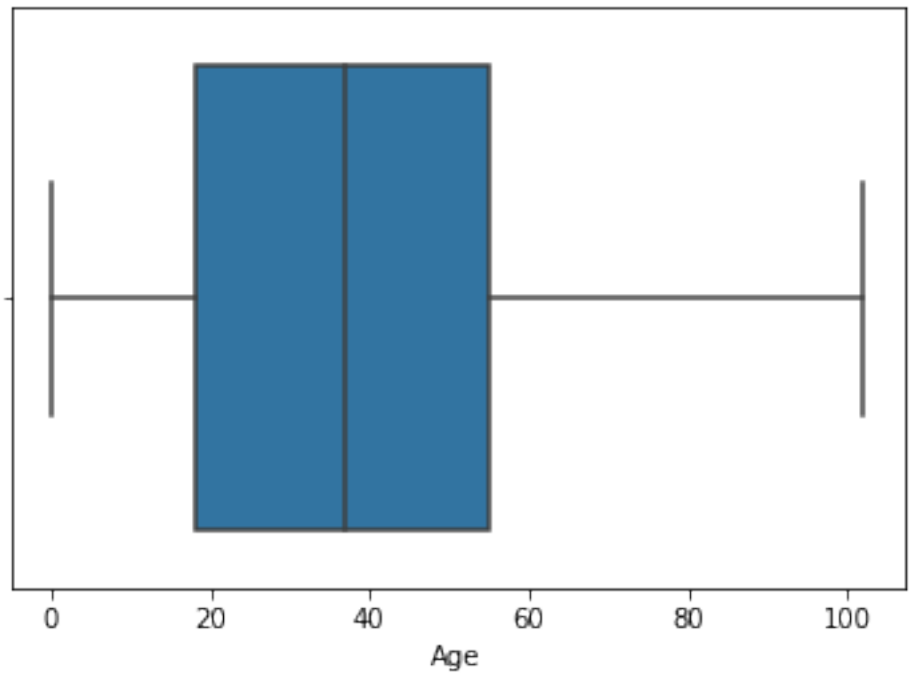
```
In [10]: #return all entries less than 0 in the Age column
         df_noshow [df_noshow.Age < 0]
```

```
Out[10]:           PatientId  AppointmentID Gender          ScheduledDay  \
         99832  4.659432e+14        5775010      F  2016-06-06T08:58:13Z

                      AppointmentDay  Age Neighbourhood  Scholarship  Hipertension  \
         99832  2016-06-06T00:00:00Z   -1         ROMÃO            0             0

                Diabetes  Alcoholism  Handcap  SMS_received No-show
         99832         0           0        0             0      No
```

The output confirms that there two and five persons aged 102 and 115 years respectively.It also identifies the female with age -1. I will now proceed to remove these outliers so they do not pose any errors later in the analysis. For this analysis, I will remove the rows with entries for the patients aged 115 and -1 because to enable me focus with entries that are closer in range.

```
In [11]: df_noshow = df_noshow[(df_noshow.Age > -1) & (df_noshow.Age < 115)]
```

```
sns.boxplot(df_noshow.Age)
plt.show()
```



The boxplot shows that the outliers have been succesfully removed and I now have data in close range to work with.The dataset now has 110521 entries and 14 columns.

```
In [12]: df_noshow.shape

Out[12]: (110521, 14)
```

I observed that some column names are wrongly spelt. Not like this has any effect on the output but I'll be correcting the column names (Hipertension, Handcap) just so it's easier to understand.

```
In [13]: #rename the Hipertension column
         df_noshow.rename(columns={'Hipertension' :'Hypertension'}, inplace=True)

In [14]: #rename the Handcap column
         df_noshow.rename(columns={'Handcap' :'Handicap'}, inplace=True)

In [15]: #rename the No-show column
         df_noshow.rename(columns={'No-show' :'NoShow'}, inplace=True)
         df_noshow.head()

Out[15]:       PatientId  AppointmentID Gender          ScheduledDay  \
         0  2.987250e+13        5642903      F  2016-04-29T18:38:08Z
```

```
1  5.589978e+14        5642503      M  2016-04-29T16:08:27Z
2  4.262962e+12        5642549      F  2016-04-29T16:19:04Z
3  8.679512e+11        5642828      F  2016-04-29T17:29:31Z
4  8.841186e+12        5642494      F  2016-04-29T16:07:23Z

          AppointmentDay  Age      Neighbourhood  Scholarship  Hypertension  \
0  2016-04-29T00:00:00Z   62    JARDIM DA PENHA            0             1
1  2016-04-29T00:00:00Z   56    JARDIM DA PENHA            0             0
2  2016-04-29T00:00:00Z   62      MATA DA PRAIA            0             0
3  2016-04-29T00:00:00Z    8  PONTAL DE CAMBURI            0             0
4  2016-04-29T00:00:00Z   56    JARDIM DA PENHA            0             1

   Diabetes  Alcoholism  Handicap  SMS_received NoShow
0         0           0         0             0     No
1         0           0         0             0     No
2         0           0         0             0     No
3         0           0         0             0     No
4         1           0         0             0     No
```

In [16]:
```
#convert ScheduleDay to DateTime type
df_noshow.AppointmentDay = pd.to_datetime(df_noshow.AppointmentDay)
df_noshow.head()
```

Out[16]:
```
      PatientId  AppointmentID Gender          ScheduledDay  \
0  2.987250e+13        5642903      F  2016-04-29T18:38:08Z
1  5.589978e+14        5642503      M  2016-04-29T16:08:27Z
2  4.262962e+12        5642549      F  2016-04-29T16:19:04Z
3  8.679512e+11        5642828      F  2016-04-29T17:29:31Z
4  8.841186e+12        5642494      F  2016-04-29T16:07:23Z

              AppointmentDay  Age      Neighbourhood  Scholarship  \
0 2016-04-29 00:00:00+00:00   62    JARDIM DA PENHA            0
1 2016-04-29 00:00:00+00:00   56    JARDIM DA PENHA            0
2 2016-04-29 00:00:00+00:00   62      MATA DA PRAIA            0
3 2016-04-29 00:00:00+00:00    8  PONTAL DE CAMBURI            0
4 2016-04-29 00:00:00+00:00   56    JARDIM DA PENHA            0

   Hypertension  Diabetes  Alcoholism  Handicap  SMS_received NoShow
0             1         0           0         0             0     No
1             0         0           0         0             0     No
2             0         0           0         0             0     No
3             0         0           0         0             0     No
4             1         1           0         0             0     No
```

This output shows that the column names have now been corrected.

In [17]:
```
#convert ScheduleDay to datetime type
df_noshow.ScheduledDay = pd.to_datetime(df_noshow.ScheduledDay)
df_noshow.head()
```

Out[17]:

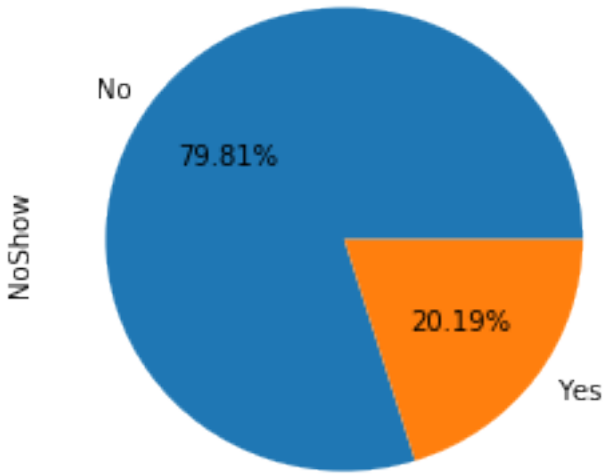
	PatientId	AppointmentID	Gender	ScheduledDay	AppointmentDay	Age	Neighbourhood	Scholarship	Hypertension	Diabetes	Alcoholism	Handicap	SMS_received	NoShow
0	2.987250e+13	5642903	F	2016-04-29 18:38:08+00:00	2016-04-29 00:00:00+00:00	62	JARDIM DA PENHA	0	1	0	0	0	0	No
1	5.589978e+14	5642503	M	2016-04-29 16:08:27+00:00	2016-04-29 00:00:00+00:00	56	JARDIM DA PENHA	0	0	0	0	0	0	No
2	4.262962e+12	5642549	F	2016-04-29 16:19:04+00:00	2016-04-29 00:00:00+00:00	62	MATA DA PRAIA	0	0	0	0	0	0	No
3	8.679512e+11	5642828	F	2016-04-29 17:29:31+00:00	2016-04-29 00:00:00+00:00	8	PONTAL DE CAMBURI	0	0	0	0	0	0	No
4	8.841186e+12	5642494	F	2016-04-29 16:07:23+00:00	2016-04-29 00:00:00+00:00	56	JARDIM DA PENHA	0	1	1	0	0	0	No

AppointmentDay and ScheduledDay are now in datetime format.

I also observed that handcap has more than two values.The min value is 0 and the maximum is 4. A quick look at the data source on kaggle showed that the values for handcap indicates how many handicaps a patient has and not if the patient has a handicap or not.

In [18]:
```
#plot of Noshow to appointments as a piechart. autopct was used to format the decimal p
df_noshow.NoShow.value_counts().plot(kind ='pie', figsize = (4,4), autopct='%.2f%%')
```

Out[18]: <matplotlib.axes._subplots.AxesSubplot at 0x7f0657306748>



The piechart depicts that only 20.19% of appointments resulted in NoShow and a larger percentage of the scheduled appointments were honoured by the patients.

I will be dividing the patients into two groups: Show - the ones who showed up for their appointments Didnt_Show - the ones that didn't show up for their Appointment

```
In [19]: Show=df_noshow.NoShow=='No'
         Didnt_Show=df_noshow.NoShow=='Yes'
         df_noshow[Show].count()

Out[19]: PatientId         88205
         AppointmentID     88205
         Gender            88205
         ScheduledDay      88205
         AppointmentDay    88205
         Age               88205
         Neighbourhood     88205
         Scholarship       88205
         Hypertension      88205
         Diabetes          88205
         Alcoholism        88205
         Handicap          88205
         SMS_received      88205
         NoShow            88205
         dtype: int64

In [20]: df_noshow[Didnt_Show].count()

Out[20]: PatientId         22316
         AppointmentID     22316
         Gender            22316
         ScheduledDay      22316
         AppointmentDay    22316
         Age               22316
         Neighbourhood     22316
         Scholarship       22316
         Hypertension      22316
         Diabetes          22316
         Alcoholism        22316
         Handicap          22316
         SMS_received      22316
         NoShow            22316
         dtype: int64
```

Question: Is there a correlation between persons who show up for their appointments and Receiving SMS

```
In [21]: df_noshow[Show].mean()
```

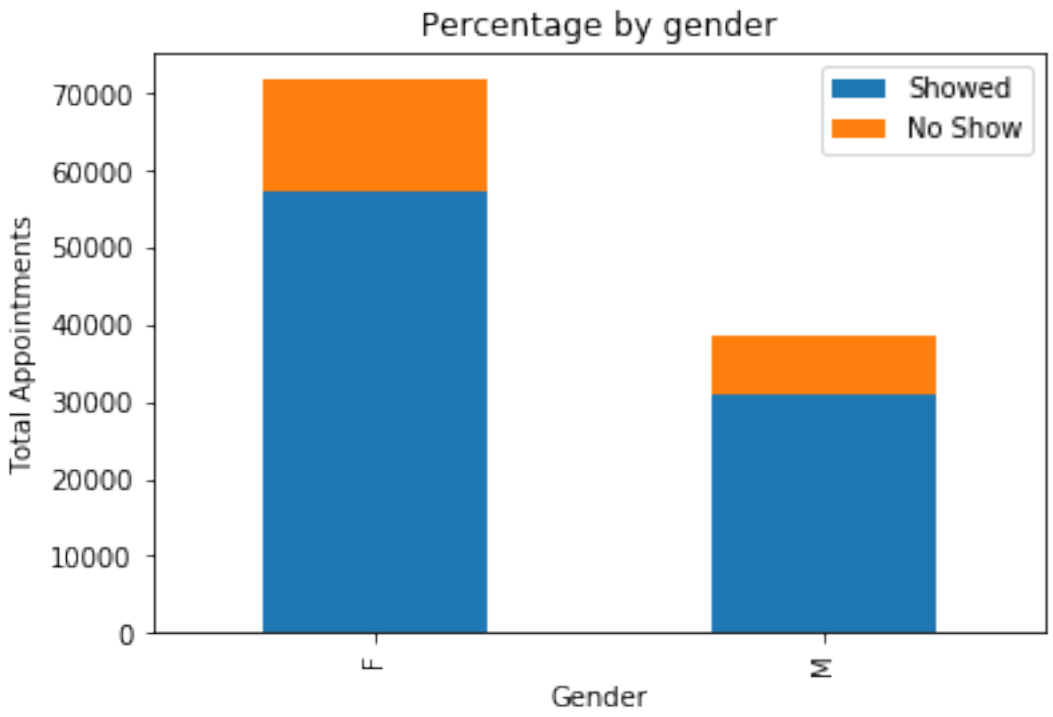
```
Out[21]: PatientId         1.476754e+14
         AppointmentID     5.681134e+06
         Age               3.778875e+01
         Scholarship       9.390624e-02
         Hypertension      2.043875e-01
         Diabetes          7.383935e-02
         Alcoholism        3.041778e-02
         Handicap          2.273114e-02
         SMS_received      2.913327e-01
         dtype: float64

In [22]: df_noshow[Didnt_Show].mean()

Out[22]: PatientId         1.467677e+14
         AppointmentID     5.652258e+06
         Age               3.430682e+01
         Scholarship       1.155225e-01
         Hypertension      1.690267e-01
         Diabetes          6.407958e-02
         Alcoholism        3.033698e-02
         Handicap          2.016490e-02
         SMS_received      4.384298e-01
         dtype: float64
```

From the output, the mean age for patients who made it for their appointments is 37, whereas, the mean age for those who didn't is 34.

```
In [23]: # Define a function that would help us chart the stacked barcharts and avoid repeating
         def plot_bar_chart(title, xfield):
             df_noshow.groupby(xfield)["NoShow"].value_counts().unstack().plot(kind="bar", stack
             plt.legend(["Showed","No Show"]);
             plt.ylabel('Total Appointments');
             plt.title(title)
```

1.1.4 Question 1: Can a patient's gender predict if they would show up for their scheduled appointment?

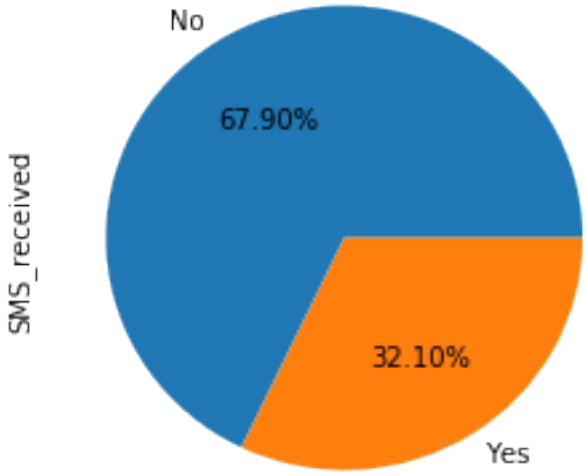
```
In [24]: title = "Percentage by gender"
         xfield = "Gender"

         plot_bar_chart(title, xfield)
```



From the chart and considering the percentage of female to male patients, there is no correlation between gender and missing scheduled appointments.

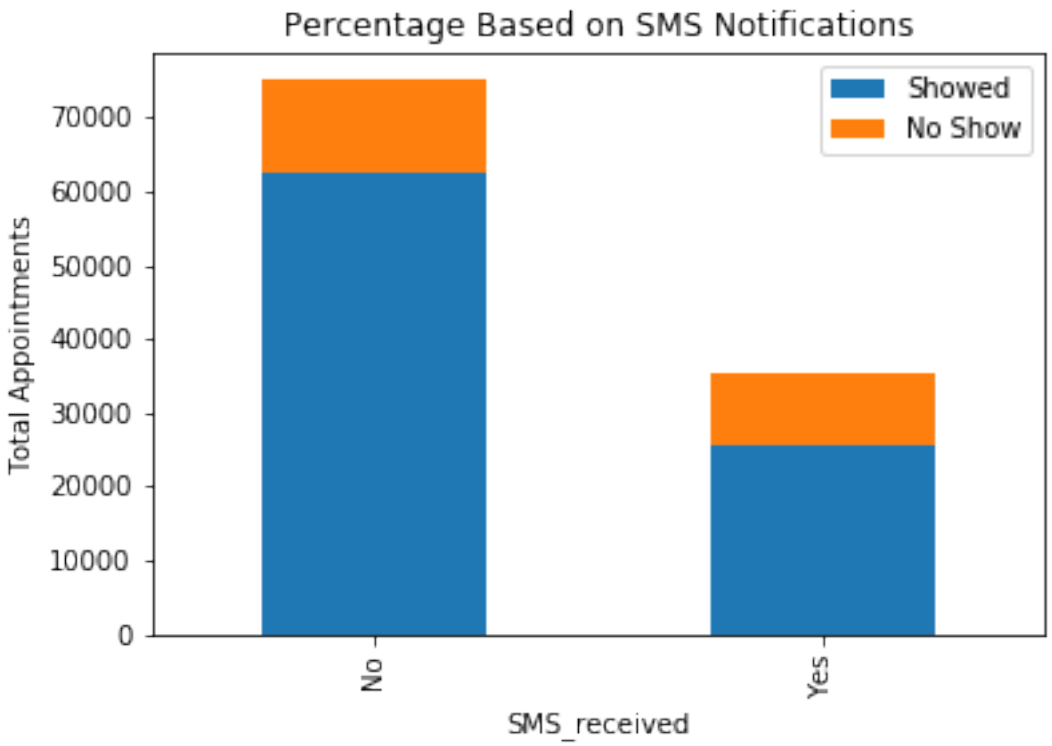
1.1.5 Question 2: Are patients more likely to show up if they recieve an SMS notification?

```
In [25]: #determining how many patients received SMS Notification
         YS={1:'Yes', 0:'No'}
         df_noshow.SMS_received.map(YS).value_counts().plot(kind ='pie', figsize = (4,4), autopc

Out[25]: <matplotlib.axes._subplots.AxesSubplot at 0x7f06573b0c88>
```



A larger percentage of patients didn't receive SMS notifications

```
In [26]: title = 'Percentage Based on SMS Notifications'
         xfield = "SMS_received"

         plot_bar_chart(title, xfield)
         plt.xticks([0, 1], ['No', 'Yes']);
```



From the chart, I can deduce that most patients who received SMS notifications are more likely to miss their appointment. Hence, receiving an SMS notification is not likely to influence a patient to show up for their appointment.

```
In [27]: # Define a function that would help us chart the countplots and avoid repeating code
         def chart_countplot(title, xfield):
             ax = sns.countplot(x=xfield, data=df_noshow[Didnt_Show])
             plt.title(title)
             plt.ylabel("Total No Show");
             return ax
```

1.1.6 Question 3: Which Age group is most likely to miss their appointments?

```
In [28]: #getting the description of the Age column of this data
         df_noshow['Age'].describe()
```

```
Out[28]: count    110521.000000
         mean         37.085694
         std          23.104606
         min           0.000000
         25%          18.000000
         50%          37.000000
         75%          55.000000
         max         102.000000
         Name: Age, dtype: float64
```

In [29]:
```
df_noshow.Age.mean()
```

Out[29]:
```
37.08569412147918
```

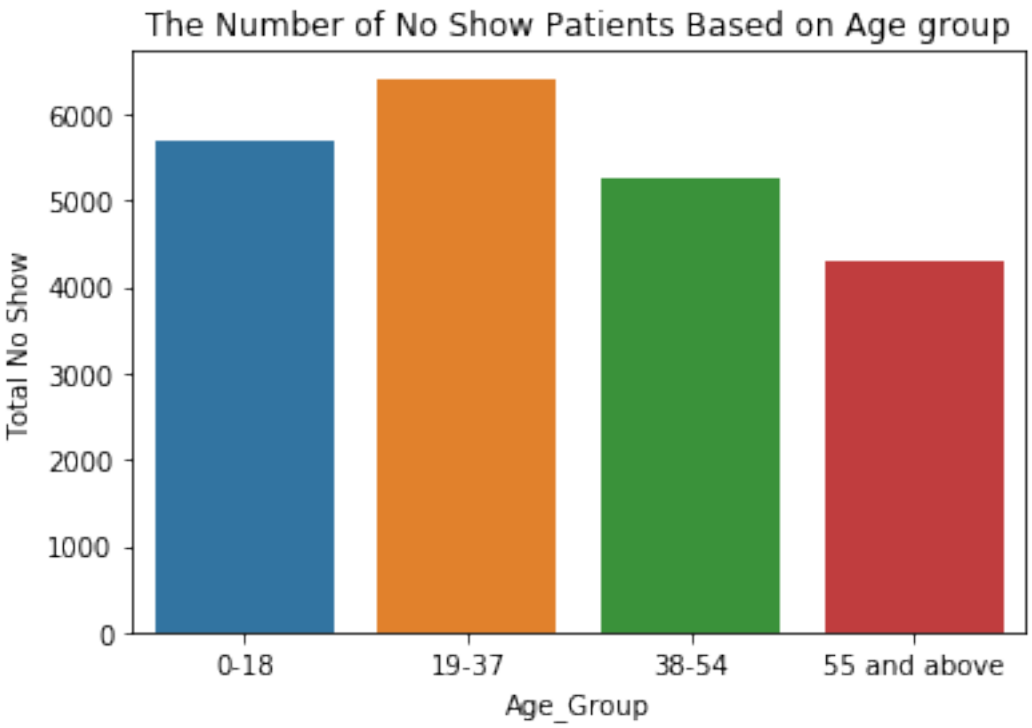
In [30]:
```
# bin edges that will be used to "cut" the Agedata into groups
bin_edges = [0, 18, 37, 55, 115]
# labels for the four age groups
bin_names = ['0-18','19-37','38-54','55 and above']
age_group = pd.cut(df_noshow['Age'], bin_edges, labels=bin_names)
# insert a new column (age_group) before column 7
df_noshow.insert(6, 'Age_Group', age_group)
df_noshow.head()
```

Out[30]:

	PatientId	AppointmentID	Gender	ScheduledDay	AppointmentDay	Age	Age_Group	Neighbourhood	Scholarship	Hypertension	Diabetes	Alcoholism	Handicap	SMS_received	NoShow
0	2.987250e+13	5642903	F	2016-04-29 18:38:08+00:00	2016-04-29 00:00:00+00:00	62	55 and above	JARDIM DA PENHA	0	1	0	0	0	0	No
1	5.589978e+14	5642503	M	2016-04-29 16:08:27+00:00	2016-04-29 00:00:00+00:00	56	55 and above	JARDIM DA PENHA	0	0	0	0	0	0	No
2	4.262962e+12	5642549	F	2016-04-29 16:19:04+00:00	2016-04-29 00:00:00+00:00	62	55 and above	MATA DA PRAIA	0	0	0	0	0	0	No
3	8.679512e+11	5642828	F	2016-04-29 17:29:31+00:00	2016-04-29 00:00:00+00:00	8	0-18	PONTAL DE CAMBURI	0	0	0	0	0	0	No
4	8.841186e+12	5642494	F	2016-04-29 16:07:23+00:00	2016-04-29 00:00:00+00:00	56	55 and above	JARDIM DA PENHA	0	1	1	0	0	0	No

In [31]:
```
# Using the plot_chart function

title = 'The Number of No Show Patients Based on Age group'
xfield = "Age_Group"

chart_countplot(title, xfield)
```

Out[31]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x7f064c3597f0>
```



From the displayed chart, patients between the ages of 19-37 are most likely to miss their appointments while patients 55 and above recorded the least Noshows.

1.1.7 Question 4: Which neighbourhood had the most no-shows?

```
In [32]: plt.figure(figsize = (20,8))

         title = 'The Number of No Show Patients Based on Location'
         xfield = "Neighbourhood"

         ax = chart_countplot(title, xfield)
         ax.set_xticklabels(ax.get_xticklabels(), rotation = 90)
```

```
Out[32]: [Text(0,0,'GOIABEIRAS'),
          Text(0,0,'NOVA PALESTINA'),
          Text(0,0,'CONQUISTA'),
          Text(0,0,'SÃO CRISTÓVÃO'),
          Text(0,0,'GRANDE VITÓRIA'),
          Text(0,0,'ANTÔNIO HONÓRIO'),
          Text(0,0,'MARIA ORTIZ'),
          Text(0,0,'JUCUTUQUARA'),
          Text(0,0,'SANTO ANTÔNIO'),
          Text(0,0,'BELA VISTA'),
          Text(0,0,'PRAIA DO SUÁ'),
          Text(0,0,'BONFIM'),
```

```
Text(0,0,'DA PENHA'),
Text(0,0,'ITARARÉ'),
Text(0,0,'SÃO PEDRO'),
Text(0,0,'SÃO JOSÉ'),
Text(0,0,'SANTOS DUMONT'),
Text(0,0,'ANDORINHAS'),
Text(0,0,'CARATOÍRA'),
Text(0,0,'ARIOVALDO FAVALESSA'),
Text(0,0,'TABUAZEIRO'),
Text(0,0,'CONSOLAÇÃO'),
Text(0,0,'MORADA DE CAMBURI'),
Text(0,0,'SÃO BENEDITO'),
Text(0,0,'JARDIM CAMBURI'),
Text(0,0,'JARDIM DA PENHA'),
Text(0,0,'CENTRO'),
Text(0,0,'PARQUE MOSCOSO'),
Text(0,0,'SANTA LÚCIA'),
Text(0,0,'BENTO FERREIRA'),
Text(0,0,'PRAIA DO CANTO'),
Text(0,0,'FONTE GRANDE'),
Text(0,0,'SANTO ANDRÉ'),
Text(0,0,'REDENÇÃO'),
Text(0,0,'SANTA TEREZA'),
Text(0,0,'JOANA D'ARC'),
Text(0,0,'CRUZAMENTO'),
Text(0,0,'JESUS DE NAZARETH'),
Text(0,0,'MATA DA PRAIA'),
Text(0,0,'DE LOURDES'),
Text(0,0,'DO MOSCOSO'),
Text(0,0,'MARUÍPE'),
Text(0,0,'SANTA MARTHA'),
Text(0,0,'JABOUR'),
Text(0,0,'MONTE BELO'),
Text(0,0,'ROMÃO'),
Text(0,0,'GURIGICA'),
Text(0,0,'INHANGUETÁ'),
Text(0,0,'COMDUSA'),
Text(0,0,'SANTA LUÍZA'),
Text(0,0,'ILHA DE SANTA MARIA'),
Text(0,0,'BARRO VERMELHO'),
Text(0,0,'ESTRELINHA'),
Text(0,0,'RESISTÊNCIA'),
Text(0,0,'SOLON BORGES'),
Text(0,0,'VILA RUBIM'),
Text(0,0,'DO QUADRO'),
Text(0,0,'ENSEADA DO SUÁ'),
Text(0,0,'ILHA DO BOI'),
Text(0,0,'REPÚBLICA'),
```