Statistical Analysis Report

Keith Engwall
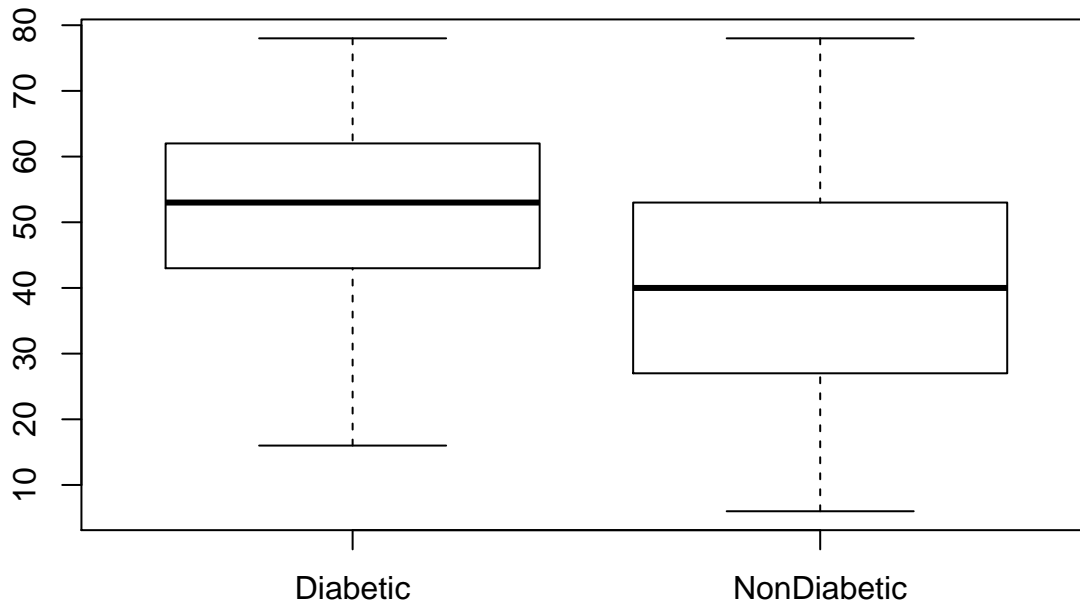
4/2/2018

Data observations

Upon an exploratory look at the data, the following observations can be made regarding comparisons between diabetic patients and non-diabetic patients in the data set.
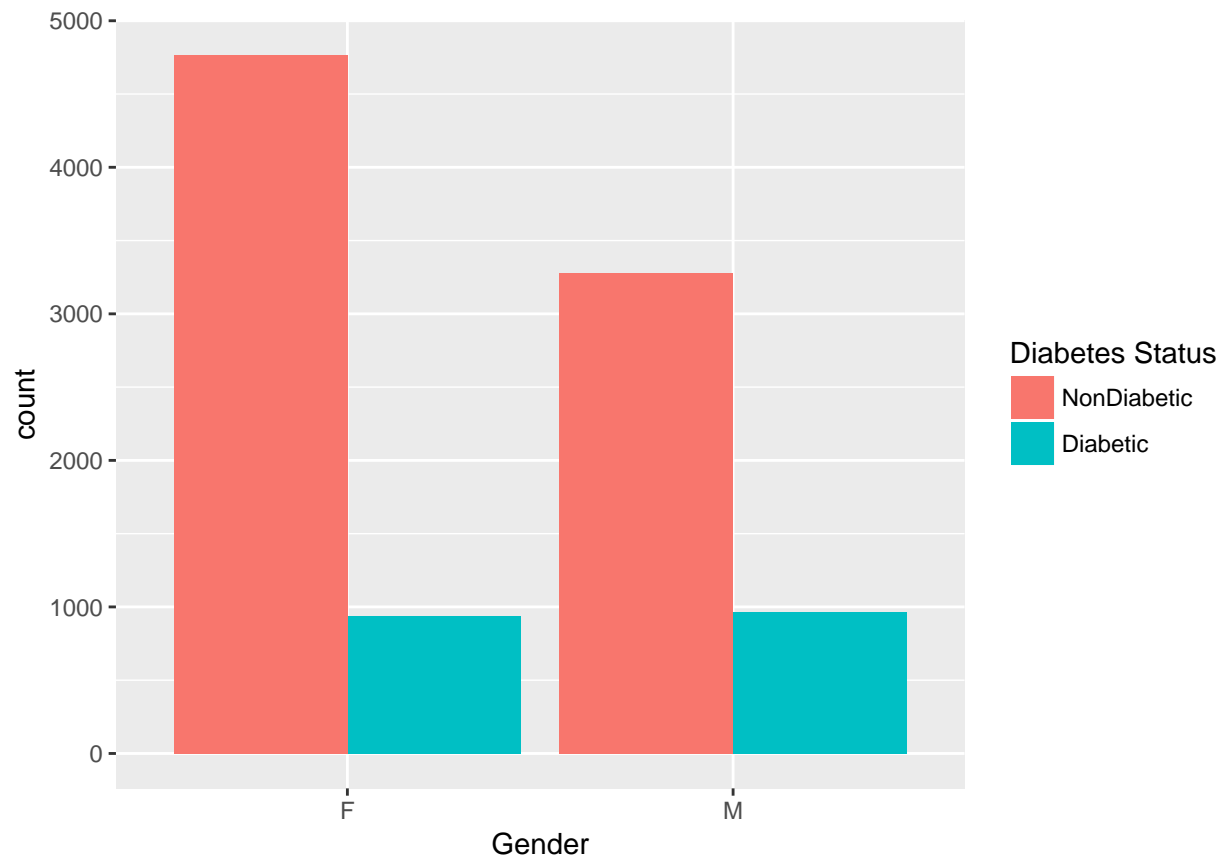
Compare age between diabetic patients and non-diabetic patients

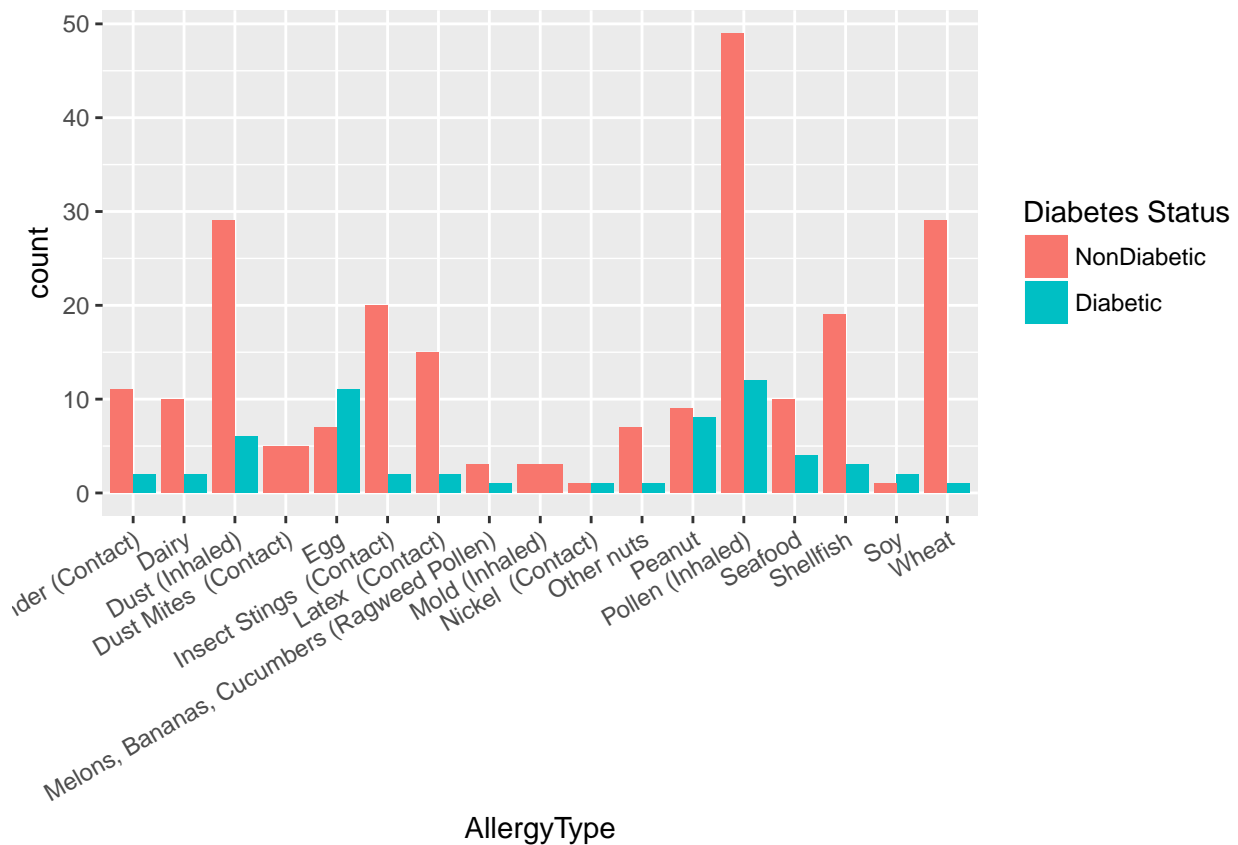It appears that the population with diabetes is older than the general population.

Compare gender

Although the number of male and female diabetic patients does not differ much, the ratio of diabetic vs. non-diabetic patients is greater among males than females.

Allergies

Among non-medical allergy types, there appears to be a large proportion of diabetic patients with egg and peanut allergies in comparison to the general population. The number of diabetic patients with egg allergies actually outnumbers non-diabetic patients.
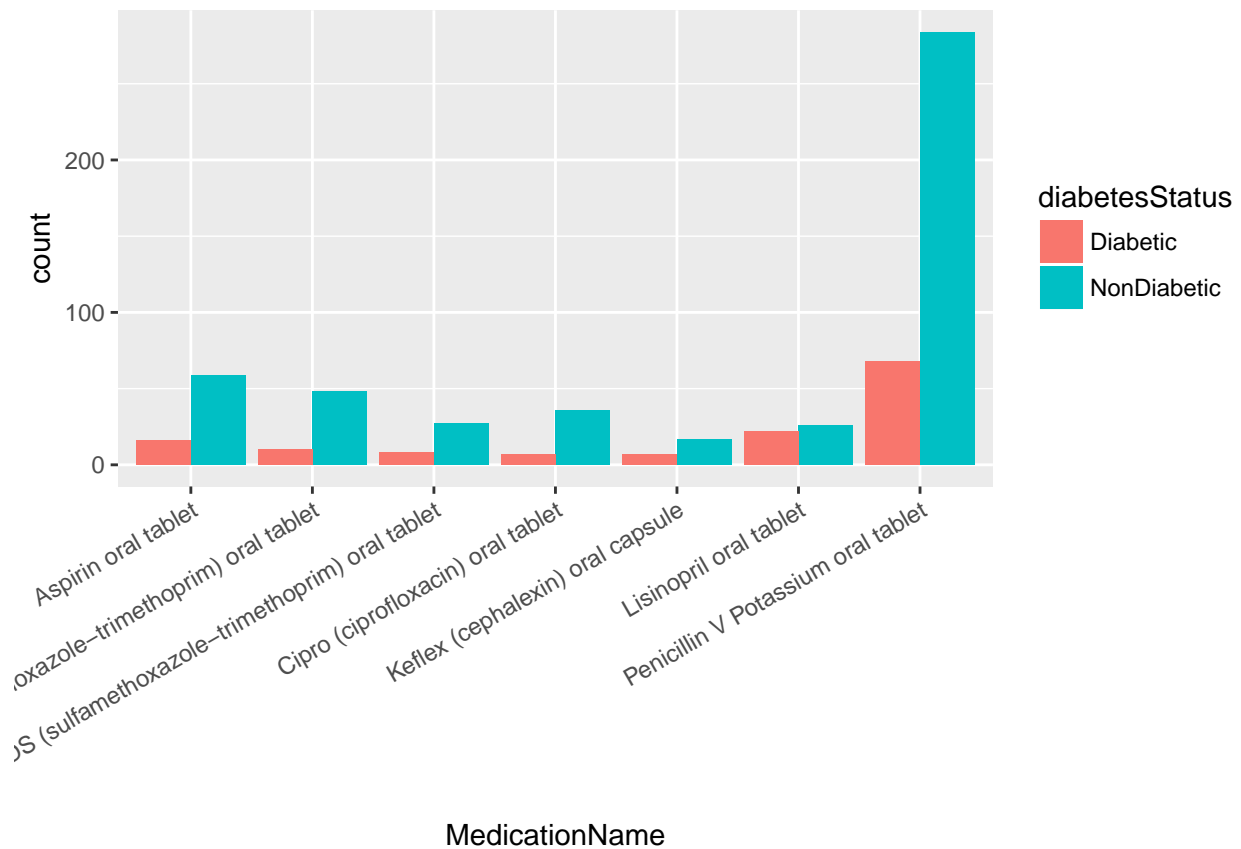
Among the allergies to medicine, there appears to be an large proportion of diabetic patients with an allergy to Lisinopril compared to the general population.

```
## Joining, by = "MedicationName"
```
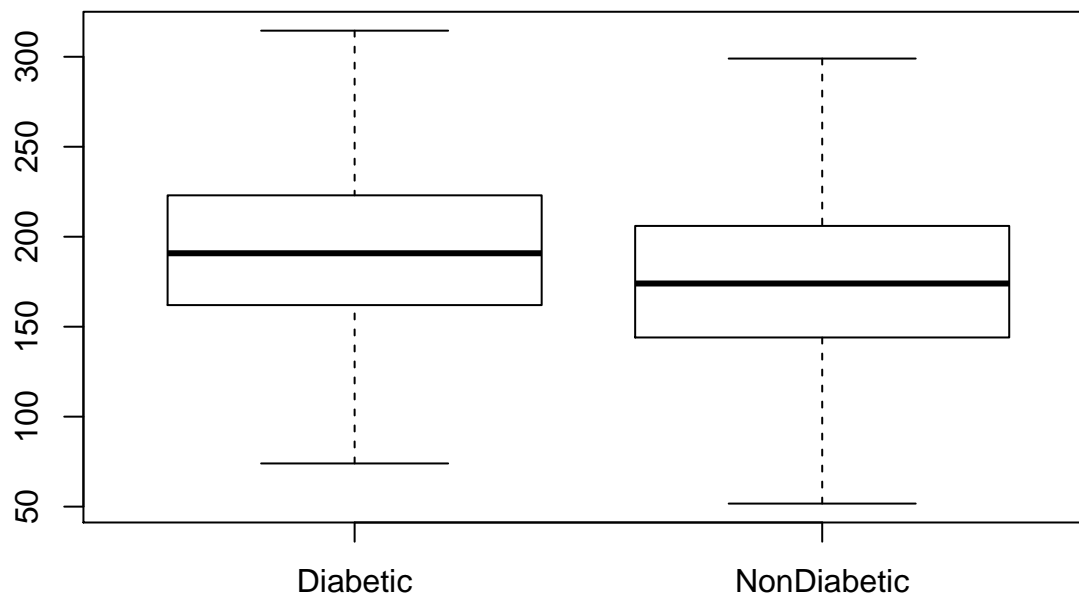
```
## Joining, by = "AllergyMedicationNdcCode"
```

```
## Warning: Column `AllergyMedicationNdcCode` joining character vector and
## factor, coercing into character vector
```
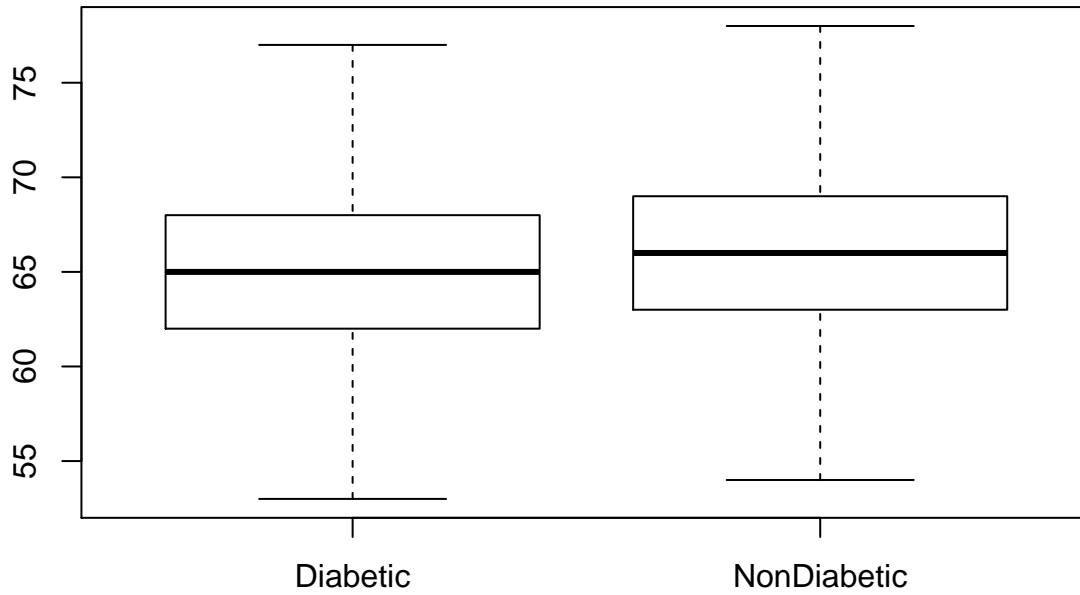
Weight

There appears to be a slight difference in weight between diabetic and non-diabetic patients, with diabetic patients having a higher weight.
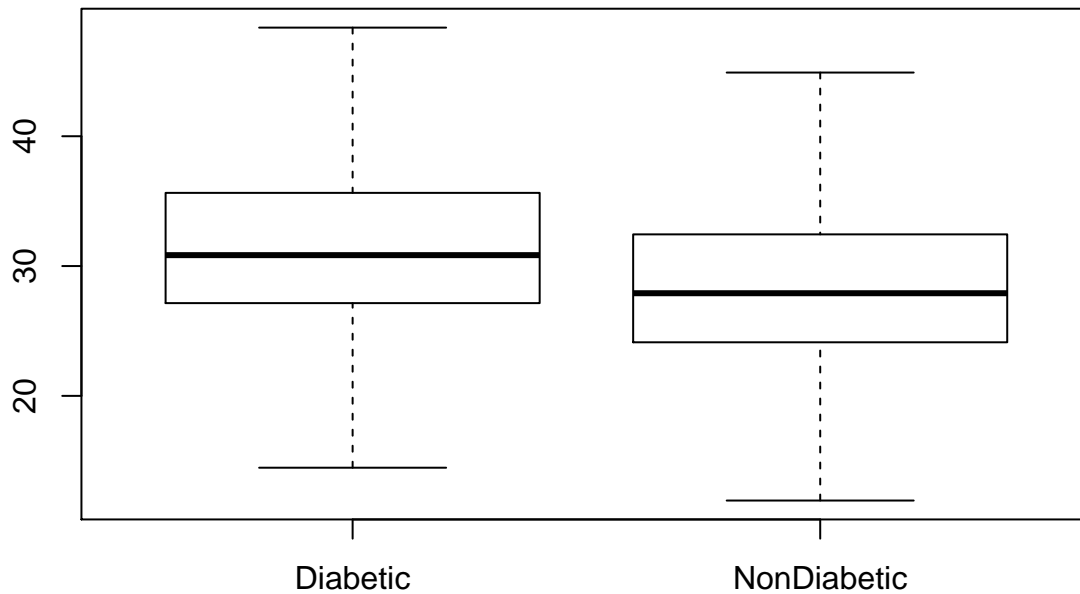
Height

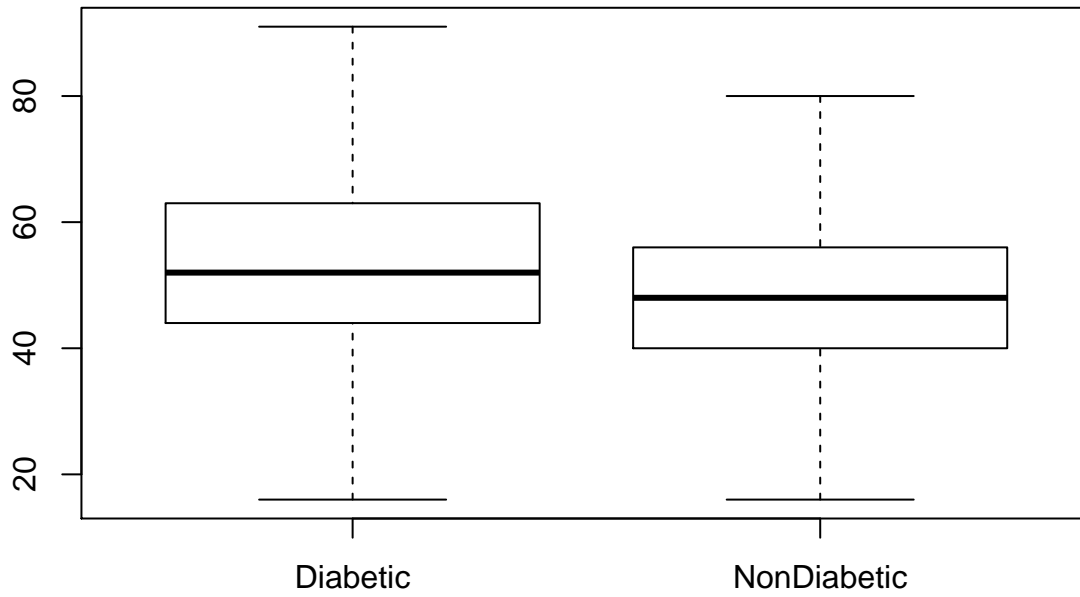There is also a slight difference in height, where diabetic patients are slightly shorter.

BMI

As BMI is typically calculated as a function of height and weight, it is no surprise that there is a greater difference between diabetic and non-diabetic patients, with diabetics having a higher BMI.
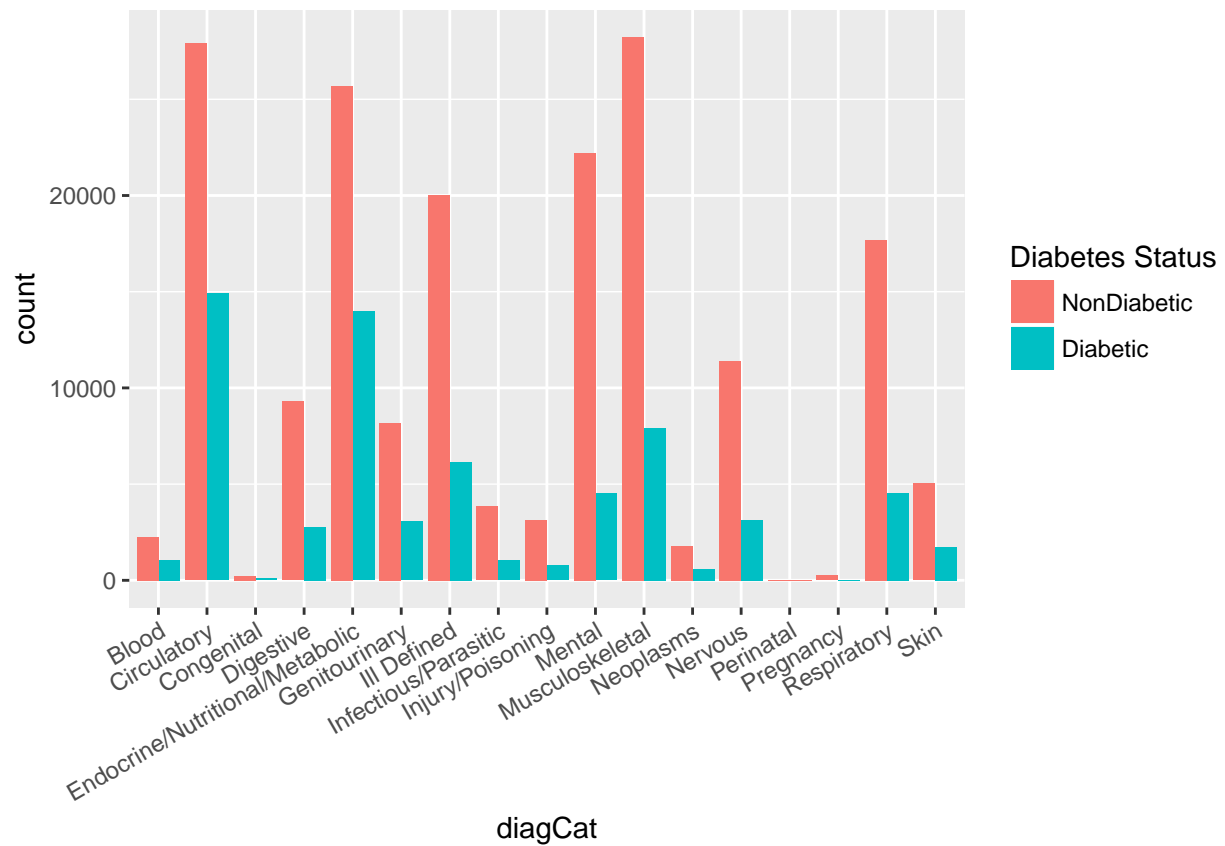

Pulse Pressure (Systolic - Diastolic)

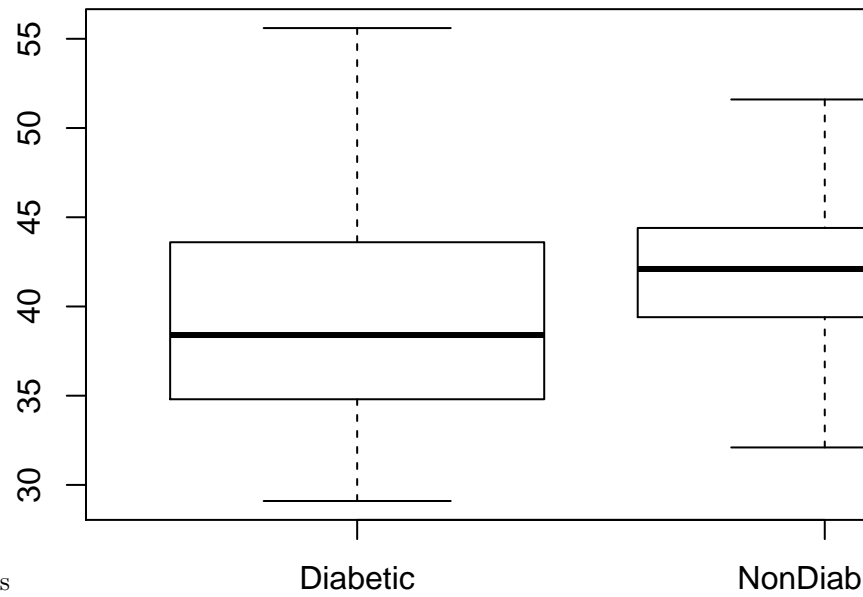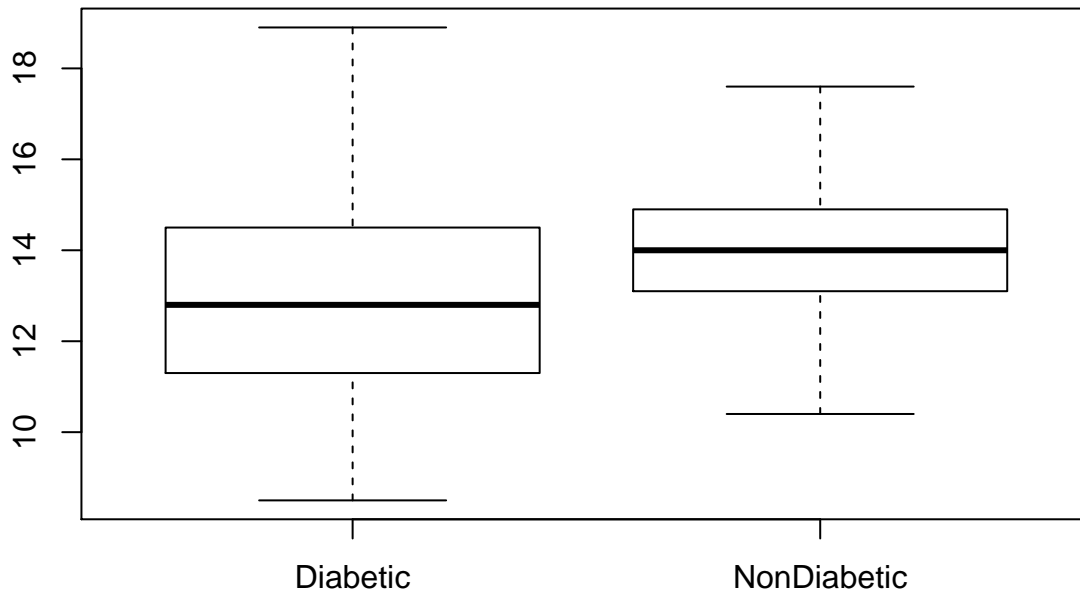Diabetic patients have a higher Pulse Pressure than non-diabetic patients.

Patient Diagnosis

There appears to be a higher ratio of diabetic patients with Circulatory and Endocrine/Nutritional/Metabolic diagnoses in comparison to the general population.
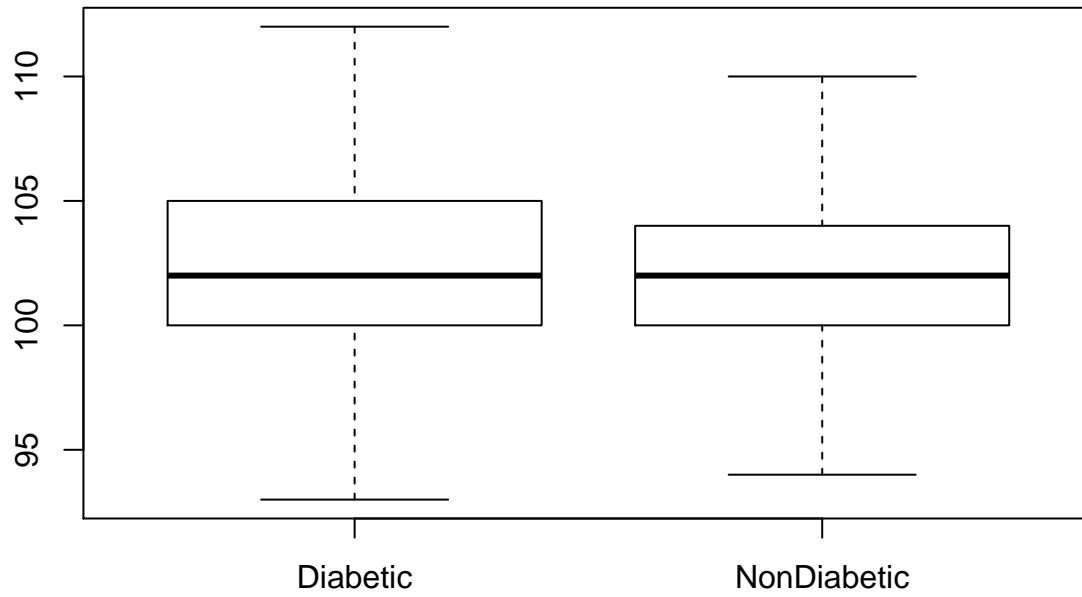
Labs Data

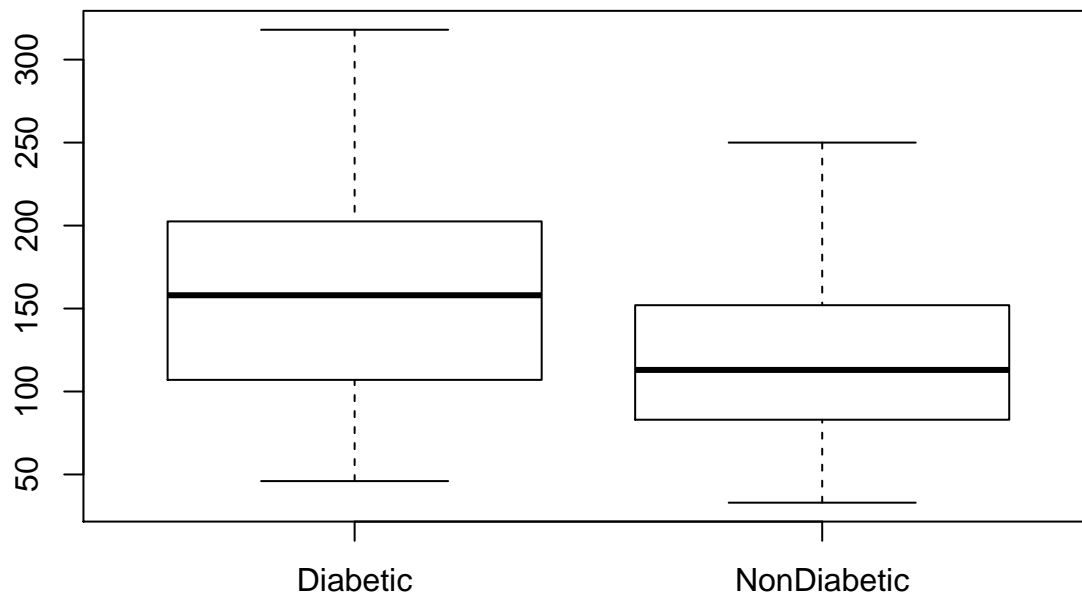Patients with diabetes have a larger range and lower g/dL for Hemoglobin tests.

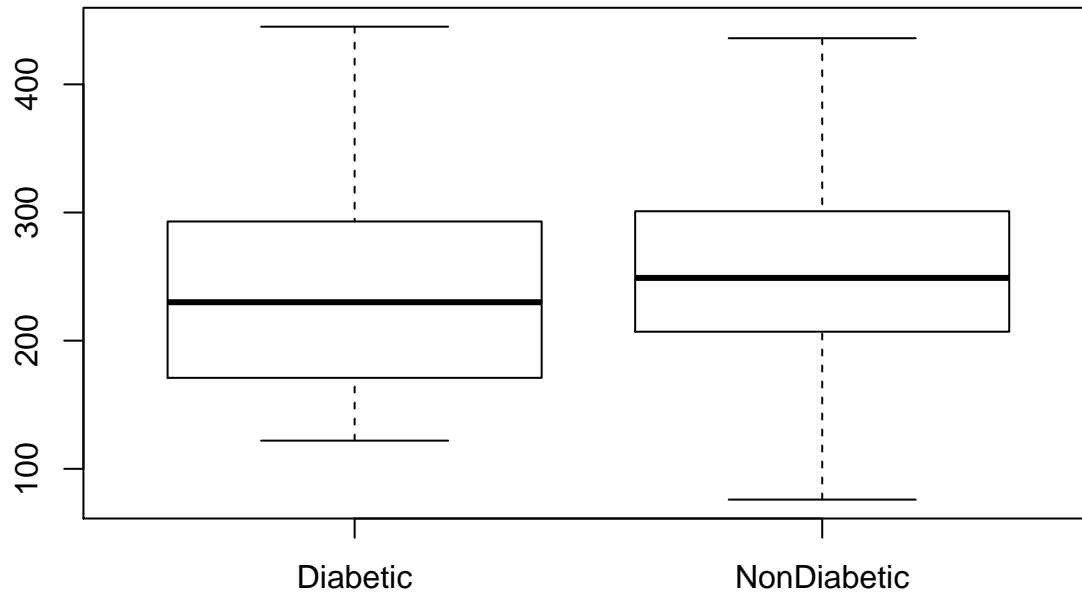Diabetic patients have a lower % on Hematocrit tests

Diabetic patients have a wider range of mmol/L but similar central tendency on Chloride tests

Diabetic patients have a higher mg/dL on Triglyceride tests.

Diabetic patients have a narrower range but a lower central tendancy of x10E3/uL on Platelets tests.

Diabetic patients have a much higher % on Red Blood Cell Distribution Width tests.