Firstly, the required packages are loaded. The "tidyverse" package is used for data manipulation and visualization, while the "boot" package is used for bootstrapping.

Next, the diabetes dataset is read from a CSV file and a random sample of 25 observations is taken with replacement. The mean and highest glucose levels in the sample and population are calculated and plotted in two histograms. The green line in the sample histogram represents the sample mean, while the purple line in the population histogram represents the population mean.

Then, the 98th percentile of BMI for the population is calculated using the "quantile" function. A sample of 50 patients is randomly selected from the dataset, and their 98th percentile of BMI is calculated and plotted in two histograms, one for the population and one for the sample. The blue line in the population histogram represents the population 98th percentile, while the yellow line in the sample histogram represents the sample 98th percentile.

After that, population statistics for BloodPressure (mean, standard deviation, and percentiles) are calculated using the built-in R functions. Next, 500 samples of size 150 are taken with replacement from the dataset, and the mean, standard deviation, and percentiles of each sample are calculated using the "sapply" function. The resulting distributions of the means from the samples and the population are plotted in two histograms, and the gridExtra package is used to display both plots side by side.

Finally, the population statistics for BloodPressure are compared with the sample statistics using the "cat" and "print" functions. The population mean and standard deviation are compared with the mean of the sample means and the mean of the sample standard deviations, respectively. The population percentiles are compared with the mean of the sample percentiles.

Overall, the code provides a good example of how to perform statistical analysis using R and the tidyverse and boot packages. The visualizations are also helpful in understanding the distribution of the variables in the dataset.