Chronic Kidney Disease and Diabetes Visualization & Analysis

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Motivation & Objective

diabetes

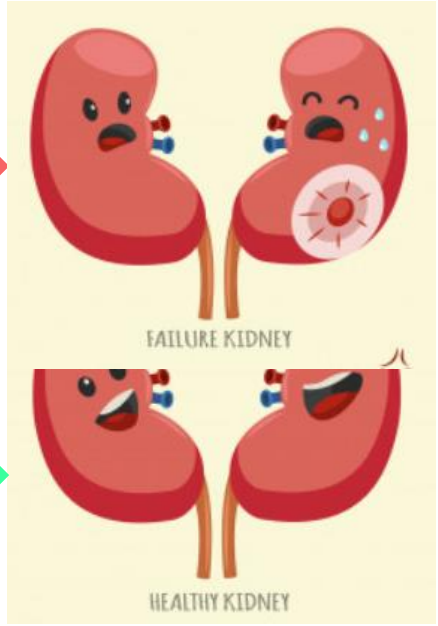
glomerulonephritis

Terminology

Chronic Kidney Disease → **CKD**

CKD+

CKD-



Methodology

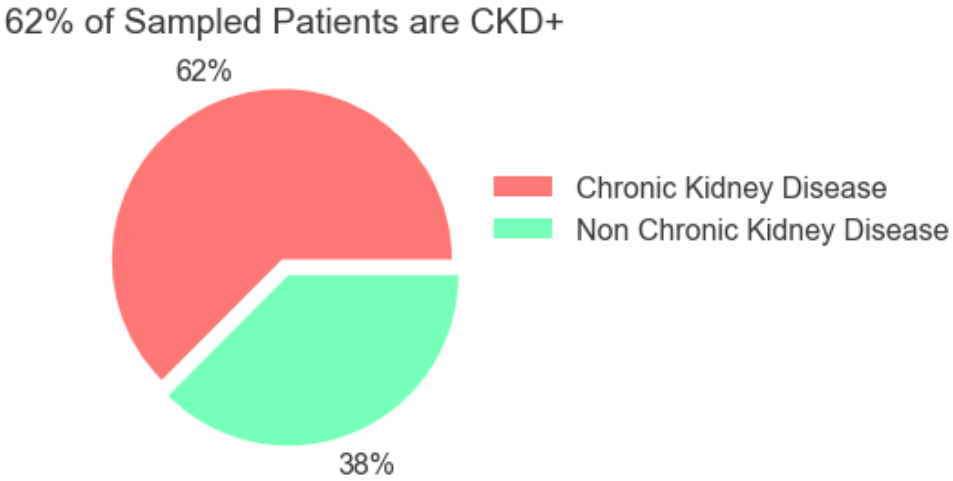
CKD Data Set from UCI ML Repository

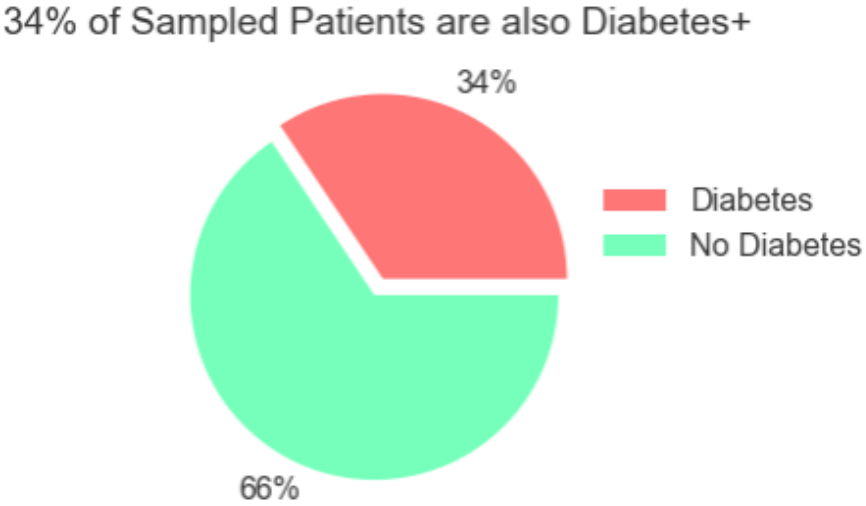
National Inst. of Diabetes and Digestive Kidney

NYS Patient Characteristics Survey

Is there any selection bias of unhealthy patients?

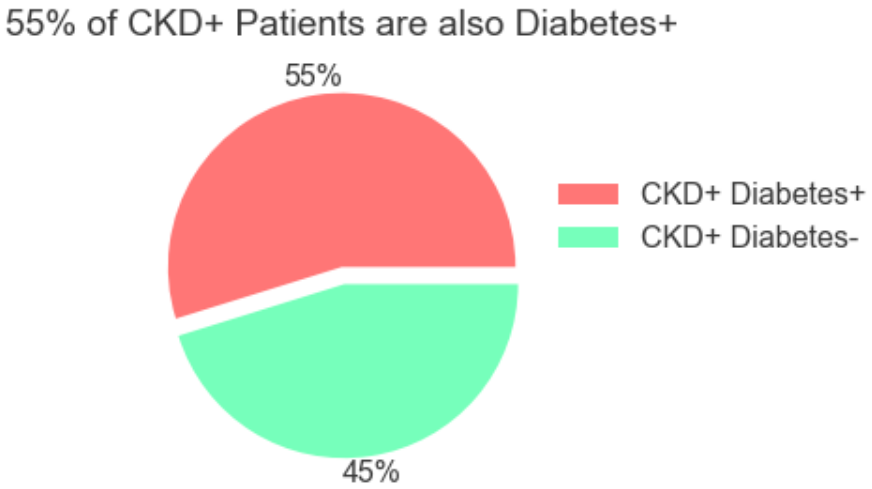
Selection bias skews towards observed class (CKD)

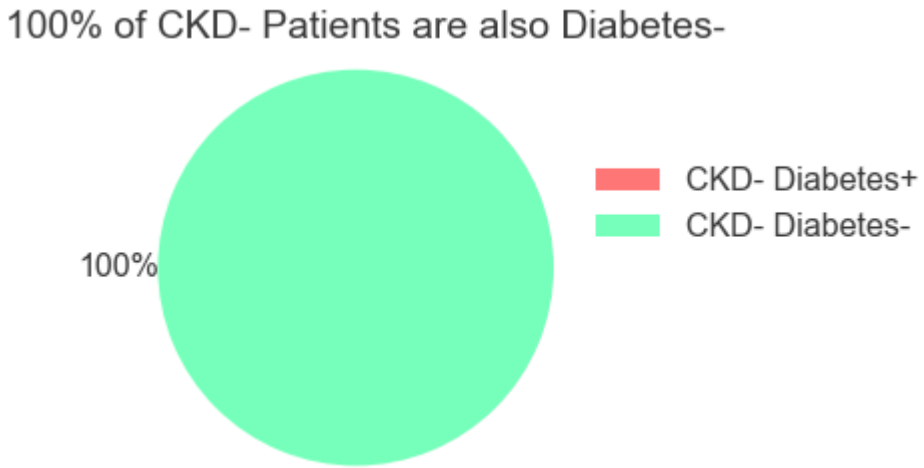




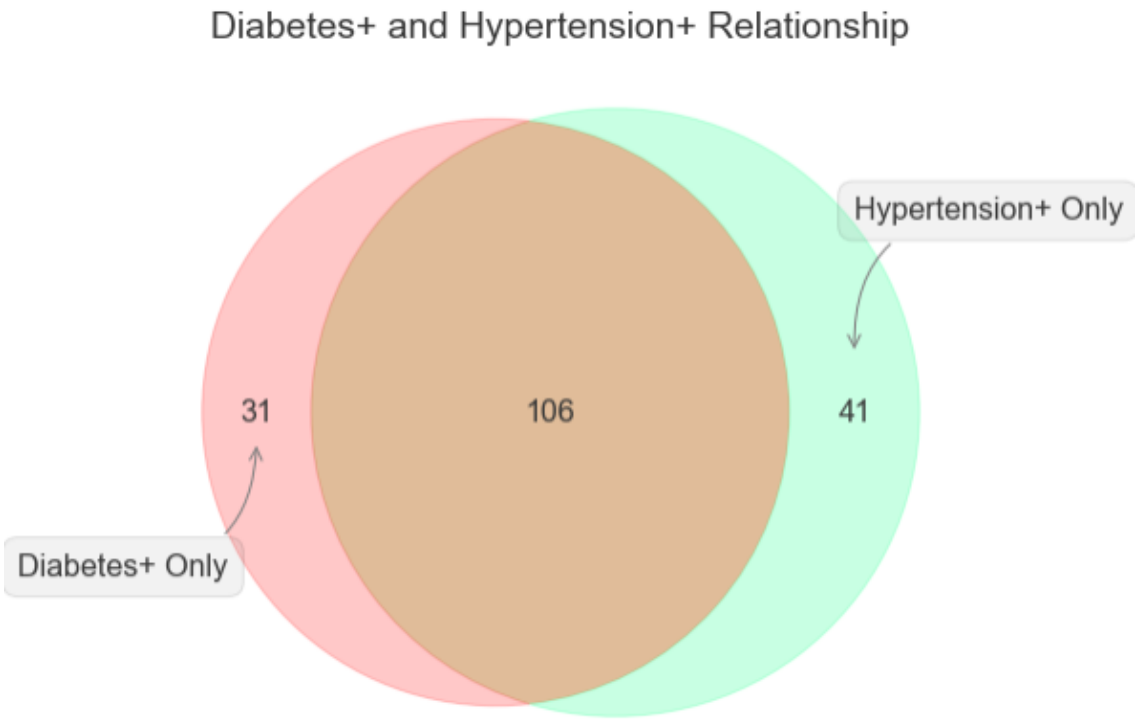
Are there any relationships between other diseases and CKD?

All CKD- patients are also diabetes-, most CKD+ are diabetes+



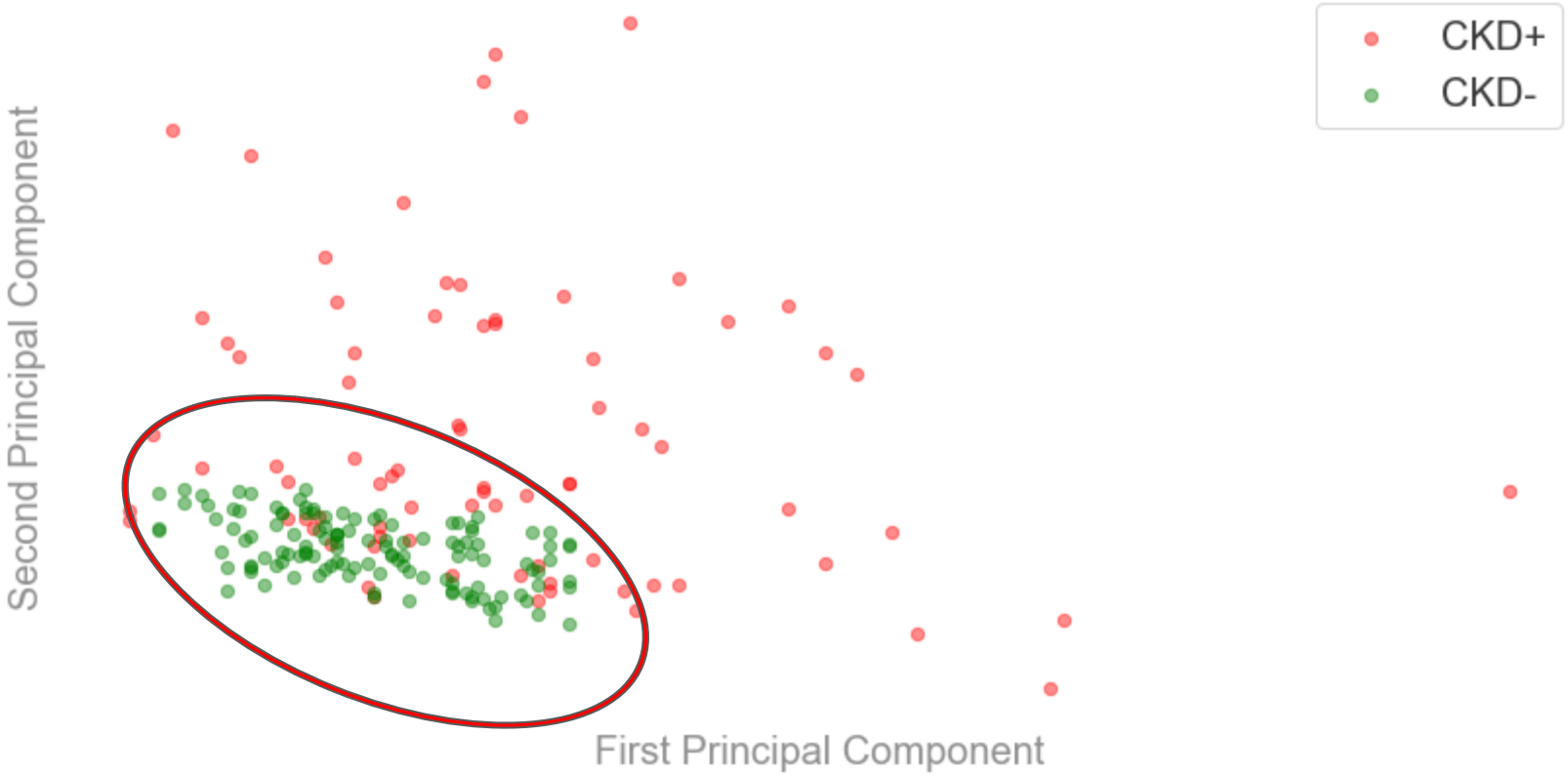


Most diabetes+ patients are also hypertension+



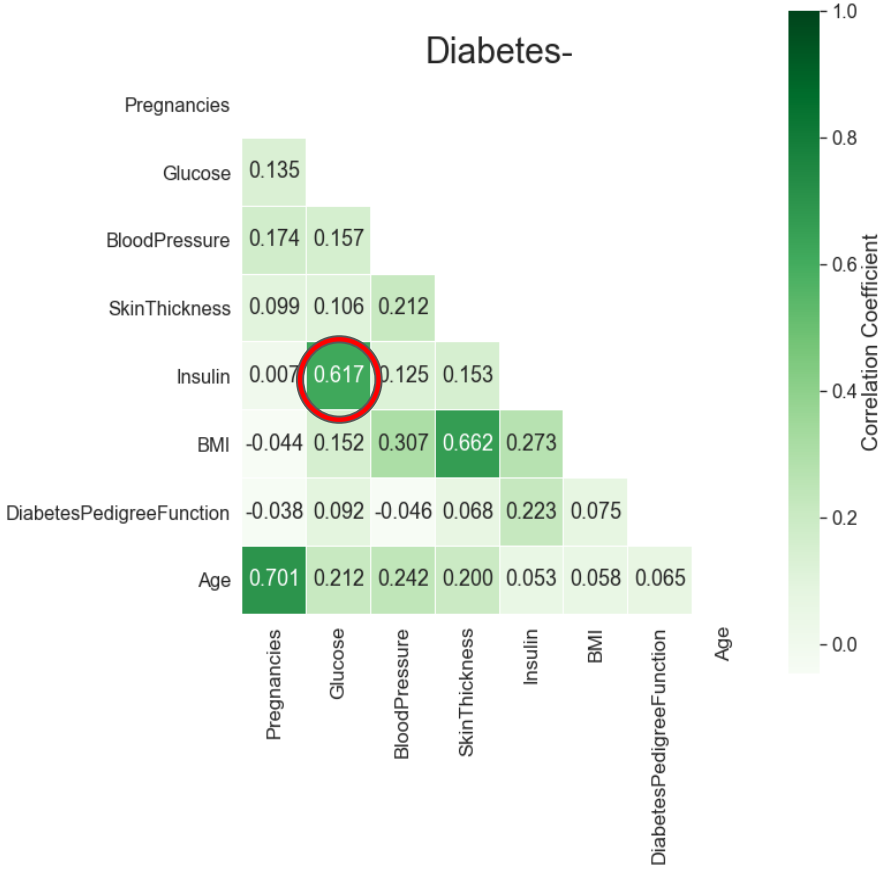
Are the feature values among healthy and unnhealthy patients similar?

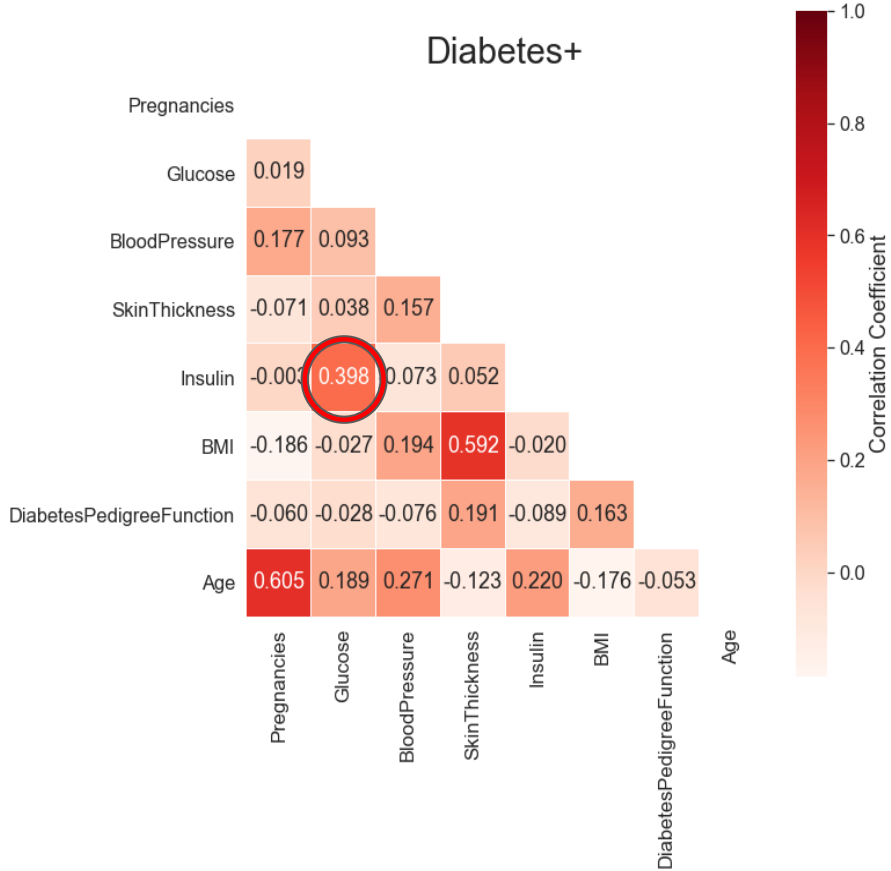
Clear clustering of CKD- class with 2 principal components



How different are the feature values between healthy and unhealthy? Biologically logical?

Glucose has a higher correlation with insulin in diabetes-

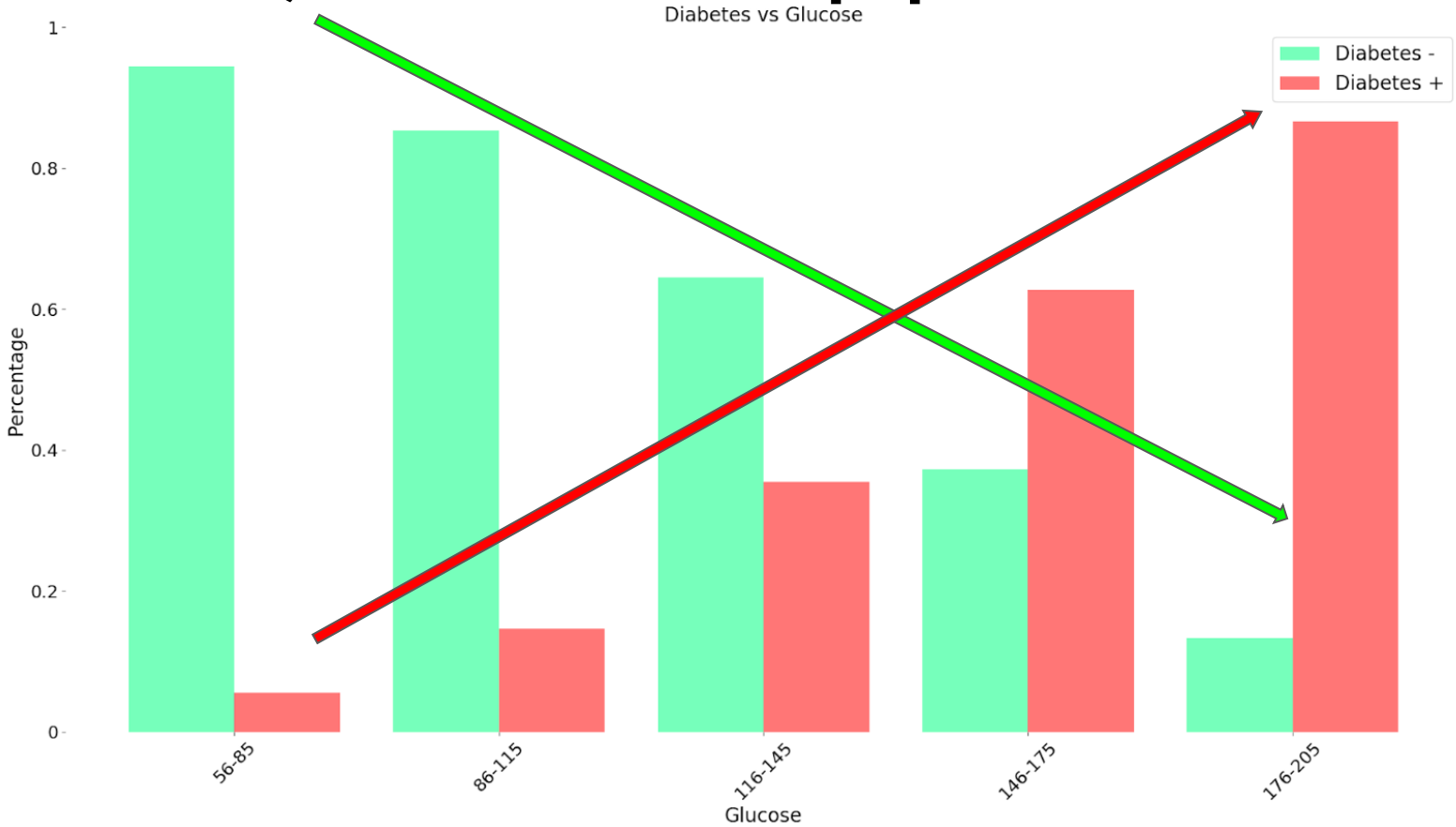




Are there trends between interesting features such as age and pregnancy?

At older ages, diabetes+ is greater than diabetes-

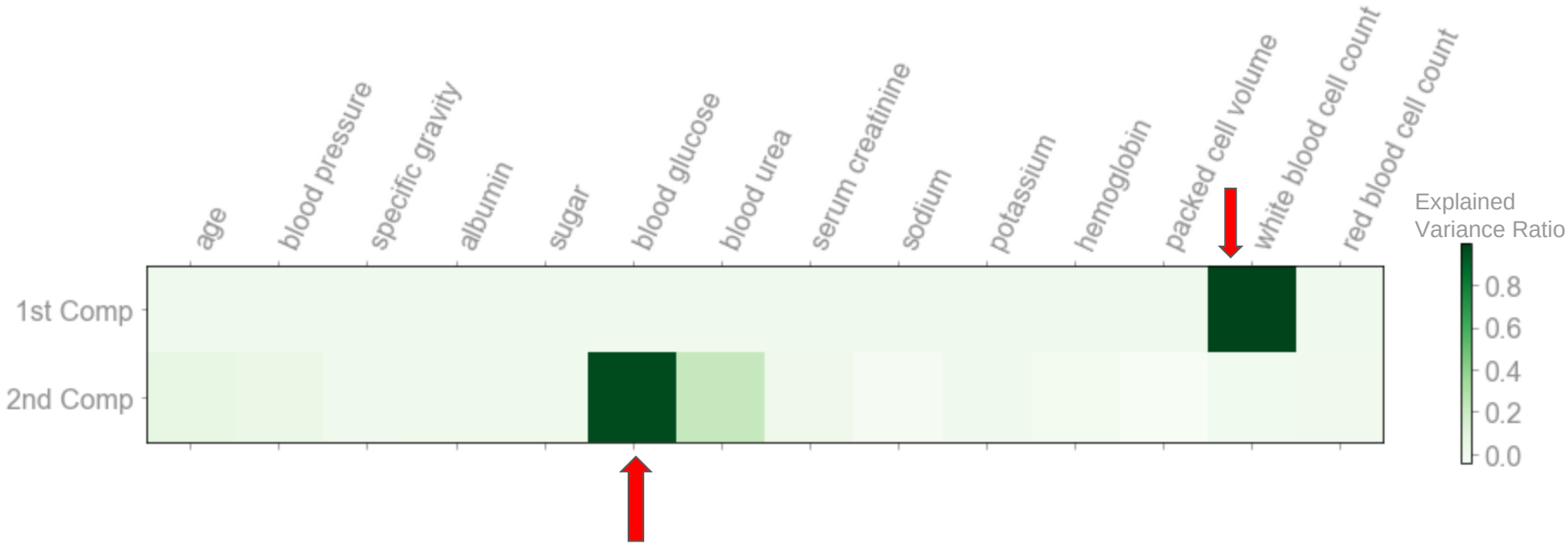
As glucose levels increase, percentage of diabetes- decreases, while diabetes+ population increases



Answered Questions

Questions?

White blood cell count and blood glucose contribute the most variance to 1st and 2nd PC respectively



Further association between other diseases and CKD