

## **Q2: Application of simple BCNF procedure to define BCNF tables using FD list**

### **Step 1: Group FDs**

Determinants after grouping are:

1. PatNo
2. ProvNo
3. PatZip9
4. VisitNo
5. ProvEmail
6. VisitNo, ProvNo

### **Step 2: Define tables(with PKs and FKs)**

Tables defined:

1. Patient
  - PK: PatNo
  - PatAge, PatZip9(FK)
2. Provider
  - PK: ProvNo
  - ProvSpecialty, ProvEmail(FK)(Unique)
3. PatientZip
  - PK: PatZip9
  - PatCity
4. Visits
  - PK: VisitNo
  - VisitDate, PatNo(FK)
5. ProviderEmail
  - PK: ProvEmail
  - ProvNo(FK)(Unique)
6. Diagnoses
  - PK: VisitNo(FK), ProvNo(FK)
  - Diagnosis

### **Step 3: Merge tables**

Tables merged:

1. Provider and ProviderEmail merged into a single table: Provider
  - PK: ProvNo
  - ProvSpecialty, ProvEmail(Unique)
2. All other tables remain the same.