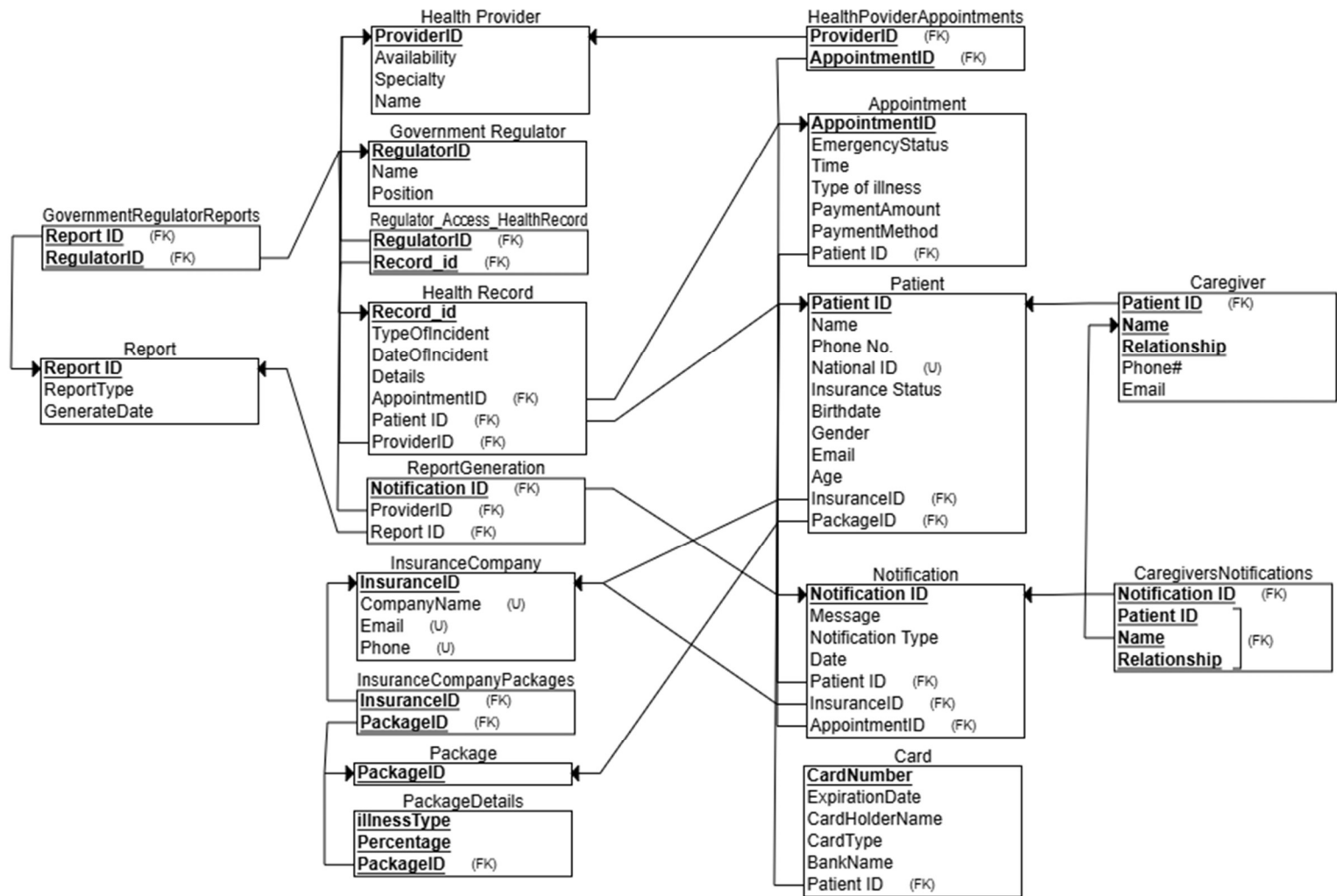


The Relational Model



1. GovernmentRegualtorReports:

Functional Dependencies:

Attributes: ReportID, RegulatorID

ReportID, RegulatorID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

2. Report:

Functional Dependencies:

Attributes: ReportID, ReportType, GenerateDate

ReportID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

3. HealthProvider:

Functional Dependencies:

Attributes: ProviderID, Availability, Specialty, Name

ProviderID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

4. GovernmentRegulator:

Functional Dependencies:

Attributes: RegulatorID, Name, Position

$\text{RegulatorID} \rightarrow \{\text{all attributes}\}$

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

5. Regulator_Access_HealthRecord:

Functional Dependencies:

Attributes: RegulatorID, RecordID

$\text{RegulatorID, RecordID} \rightarrow \{\text{all attributes}\}$

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

6. HealthRecord:

Functional Dependencies:

Attributes: RecordID, TypeOfIncident, DateOfIncident, Details, AppointmentID, PatientID, ProviderID

$\text{RecordID} \rightarrow \{\text{all attributes}\}$

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

7. ReportGeneration:

Functional Dependencies:

Attributes: NotificationID, ProviderID, ReportID

NotificationID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

8. InsuranceCompany:

Functional Dependencies:

Attributes: InsuranceID, CompanyName, Email, Phone

InsuranceID \rightarrow {all attributes}

CompanyName \rightarrow {all attributes}

Email \rightarrow {all attributes}

Phone \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies. (in this relation, all attributes are candidate keys, but we choose the InsuranceID as a primary key)

9. InsuranceCompanyPackages:

Functional Dependencies:

Attributes: InsuranceID, PackageID

InsuranceID, PackageID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

10. Package:

Functional Dependencies:

Attributes: PackageID

PackageID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

11. PackageDetails:

Functional Dependencies:

Attributes: PackageID, IllnessType, Percentage

PackageID, IllnessType, Percentage \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

12. HealthProviderAppointments:

Functional Dependencies:

Attributes: ProviderID, AppointmentID

ProviderID, AppointmentID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

13. Appointment:

Functional Dependencies:

Attributes: AppointmentID, EmergencyStatus, Time, TypeOfIllness, PaymentAmount, PaymentMethod, PatientID

AppointmentID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

14. Patient:

Functional Dependencies:

Attributes: PatientID, Name, PhoneNo, NationalID, InsuranceStatus, Birthdate, Gender, Email, Age, InsuranceID, PackageID

PatientID \rightarrow {all attributes}

NationalID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

15. Notification:

Functional Dependencies:

Attributes: NotificationID, Message, NotificationType, Date, PatientID, InsuranceID, AppointmentID

NotificationID \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

16. Card:

Functional Dependencies:

Attributes: CardNumber, ExpirationDate,
CardHolderName, CardType, BankName, PatientID

CardNumber \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

17. Caregiver:

Functional Dependencies:

Attributes: PatientID, Name, Relationship, Phone, Email

PatientID, Name, Relationship \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.

18. CaregiversNotification:

Functional Dependencies:

Attributes: NotificationID, PatientID, Name, Relationship

NotificationID, PatientID, Name, Relationship \rightarrow {all attributes}

Normalization:

BCNF: All attributes are determined by a superkey and there are no transitive dependencies.