

ER Modelling Exercise – Hospital

Consider the following requirements for inpatients at a hospital:

All patients admitted to the hospital are given a unique patient number. The patient's name, address, age, and sex are recorded. Private patients are allocated a private room, identified by the room number. Private rooms are of different types, e.g., standard, deluxe, palatial, etc. NHS patients are allocated a bed in a ward, beds being identified by the ward name and bed number. Wards are of different types, e.g., pediatric, cancer, etc, with a named sister in charge of each one. Each patient is allocated to a named consultant who supervises the medical care of the patient. The consultant decides on the treatments to be given to the patient. A treatment is any medical procedure performed on the patient. Each treatment is given a unique treatment number, and a description of the treatment and the date it is performed are recorded.

Design an E-R diagram for the above database. Derive a corresponding relational scheme from your E-R diagram. The E-R diagram must show attributes, keys, cardinalities, and constraints. The relational scheme must be in third-normal form, with primary and foreign keys clearly indicated.

ENTITY: Patient

ATTR: PatientNo, PatientName, PatientAddress, PatientAge, PatientSex, RoomNo (foreign key), BedNo (foreign key), ConsultantName (foreign key), TreatmentNo (foreign key)

ENTITY: Room

ATTR: RoomNo, RoomType

ENTITY: Bed

ATTR: BedNo, WardName (foreign key)

ENTITY: Ward

ATTR: WardName, WardType, SisterName (foreign key)

ENTITY: Sister

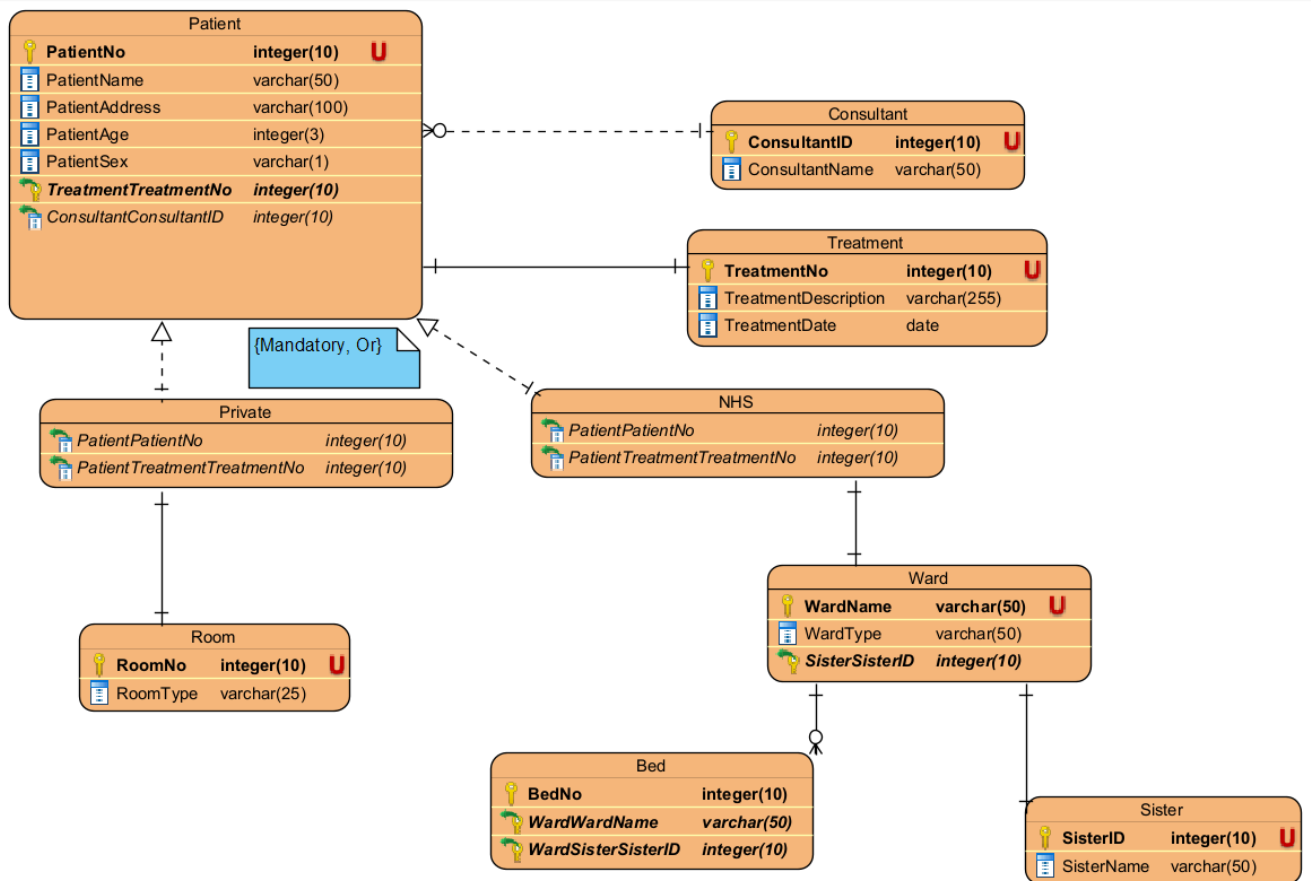
ATTR: SisterName

ENTITY: Consultant

ATTR: ConsultantName

ENTITY: Treatment

ATTR: TreatmentNo, TreatmentDescription, TreatmentDate



This has transitive dependency doesn't it...