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Assignment: Hospital Administrator’s ERD & EERD

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ISM 4212: Database Design / Administration

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# Purpose

The purpose of this database Design Documentation (DBDD) is to keep track of everything that happens from when a patient is admitted, what nurses see that patient, and what doctors admit and treat those patients. As each doctor and nurse have different functions, its important to keep track of what each nurses and doctors specialties are and whether or not they see the patient.

# Narrative Summary

Administrator wants to record each nurse’s name and address, phone and alternate phone, email and the medical specialties he or she is certified. Some nurses supervise one or more other nurses. No nurse is supervised by more than one nurse, and some nurses are unsupervised.

Each ward at the hospital has a designated number, descriptive name, physical location and phone number. Each ward has at least one nurse assigned to it. A nurse is assigned to at least one ward and rotates assignments among other wards. The assignment is tracked by the specific date and the hours worked in the assigned ward by each nurse on that date.

In addition to nurse assignments, each ward also has a charge nurse. The charge nurse is the custodian of the medical records for the ward. Not all nurses act in this capacity, but those that do are in charge of only one ward, and a ward only has one charge nurse.

A ward consists of hospital beds. The beds are inventoried to a specific ward. Information on beds including their size (small, large, extra-large) and their type (elevated electrically or manually). Most of the beds are large and manual (this is the default setting).

When a patient is admitted to the hospital they are assigned to a specific bed. Not all beds are available for use all the time, and a bed may not be assigned to more than one patient. Information on patients is recorded: name, gender, dob, address, phone, alternate phone, email.

The date the patient is admitted to the hospital, the admitting doctor, the date the patient is discharged, and discharging doctor are also tracked.

Some doctors admit patients while others do not. Doctor information tracked: name, address, phone, alternate phone, email and their medical specialties. The hospital tracks the treatments administered to patients and the treating doctor. Treat­ments are tracked by name, description, and charge. The hospital also tracks the date and time of each treatment administered and the results. Some doctors treat patients while others do not.

A given patient may receive no treatments or may receive many, and some patients may receive their treatments from more than one doctor. In addition to treatments, patients incur other charges for items used during their stay. The hospital tracks these charges as “items” and stores information on what items have been charged to which patients, based on date and quantity. Information that is to be stored for each item includes the item name and charge. All patients incur at least one charge for consumable items used during their stay.

Lastly, the hospital tracks nurse patient care. Each nurse patient care interaction is an event. There are several types of events: wellness check, medication, food service, assistance, treatment admin, and “other.” Given the number of shifts and ward rotations, a patient will typically be seen by more than one nurse during their stay, and a nurse most likely will interact with the same patient over several events during a single shift.

# Requirements (Actors and Roles)

Nurse: Some nurses supervise one or more other nurses. No nurse is supervised by more than one nurse, and some nurses are unsupervised. A nurse is assigned to at least one ward and rotates assignments among other wards.

Doctor: Some doctors admit patients while others do not. Some doctors treat patients while others do not

Patient: A patient is assigned to a specific bed. A patient will typically be seen by more than one nurse during their stay, and a nurse most likely will interact with the same patient over several events during a single shift.

Bed: The beds are inventoried to a specific ward. Most of the beds are large and manual. Not all beds are available for use all the time, and a bed may not be assigned to more than one patient.

Treatment: A given patient may receive no treatments or may receive many, and some patients may receive their treatments from more than one doctor.

Ward: Each ward has at least one nurse assigned to it. each ward also has a charge nurse. Not all nurses act in this capacity, but those that do are in charge of only one ward, and a ward only has one charge nurse.

Item: Patients incur other charges for items used during their stay. All patients incur at least one charge for consumable items used during their stay

# Entities

* Nurses
* Doctors
* Patients
* Wards
* Beds
* Treatments
* Items

# Entities (w/ Nested Attributes)

* Nurses
* Nurse ID
* Name
* Address
* Phone / Alt Phone
* Email
* Medical Specialties
* Doctors
* Doctor ID
* Name
* Address
* Phone / Alt Phone
* Email
* Medical Specialties
* Patients
* Patient ID
* Name
* Gender
* DOB
* Address
* Phone / Alt Phone
* Email
* Admission Date
* Discharge Date
* Wards
* Ward ID
* Designated Number
* Descriptive Name
* Physical location
* Phone
* Beds
* Bed ID
* Bed Size (small, large, extra large)
* Bed Type (elevated electrically, manually)
* Treatments
* Treatment ID
* Name
* Description
* Charge
* Items
* Item ID
* Name
* Charge

# Business Rules

Nurse: Some nurses supervise one or more other nurses. No nurse is supervised by more than one nurse, and some nurses are unsupervised. A nurse is assigned to at least one ward and rotates assignments among other wards.

Doctor: Some doctors admit patients while others do not. Some doctors treat patients while others do not

Patient: A patient is assigned to a specific bed. A patient will typically be seen by more than one nurse during their stay, and a nurse most likely will interact with the same patient over several events during a single shift.

Bed: The beds are inventoried to a specific ward. Most of the beds are large and manual. Not all beds are available for use all the time, and a bed may not be assigned to more than one patient.

Treatment: A given patient may receive no treatments or may receive many, and some patients may receive their treatments from more than one doctor.

Ward: Each ward has at least one nurse assigned to it. each ward also has a charge nurse. Not all nurses act in this capacity, but those that do are in charge of only one ward, and a ward only has one charge nurse.

Item: Patients incur other charges for items used during their stay. All patients incur at least one charge for consumable items used during their stay

# ERD



# EERD

