

CS 3200 - In Class ER Modeling Exercise

We want to design a data model for a single hospital. Here is the scenario:

A patient is admitted to the hospital with one or more medical conditions (selected from a pre-defined set of conditions). If the same patient is admitted to the hospital again in the future, it may be for the same medical conditions or different ones. The hospital only tracks those conditions related to admissions, not general medical conditions the patient might have. The hospital maintains each patient's vital information: first name, last name, age, DOB, and email address. The hospital identifies each patient by a unique ID and creates a patient admission record. Each admission record has an admission ID number, admission date, discharge date information, and a managing physician. The hospital assigns a physician to manage a patient's care. The hospital needs to store each physician's name, ID, medical specialty, license number, and years of experience. Each physician will eventually manage numerous patients during their tenure with the hospital, but initially don't manage any patients. A patient is admitted to a particular ward (ICU, pediatrics, etc.) and will stay in that ward for the duration of their admission. Each ward is identified by ward number, name (ICU, pediatrics, etc), and type (e.g., medical/surgical). Each ward contains multiple beds, and every bed has a number and type (e.g., private room bed/ shared room bed) as well. When a patient is admitted to a ward, they are assigned a bed in that ward and will remain with that bed for the duration of their stay. If a patient needs a surgical procedure, then the hospital schedules an operation. The following information is needed to schedule the operation: operation id (a unique ID associated with each operation), date and time of scheduled start time, patient id, the assigned surgeon's id (a physician), and the assigned anesthesiologist's id (also a physician). Hospital policy prohibits the surgeon and anesthesiologist from being the same person. Other physicians may or may not participate in the operation. If there are additional physicians, the hospital needs to track that. The hospital also needs to keep track of the start time and end time of the surgical procedure.