Fakultas
Ekonomi & Bisnis
Telkom University

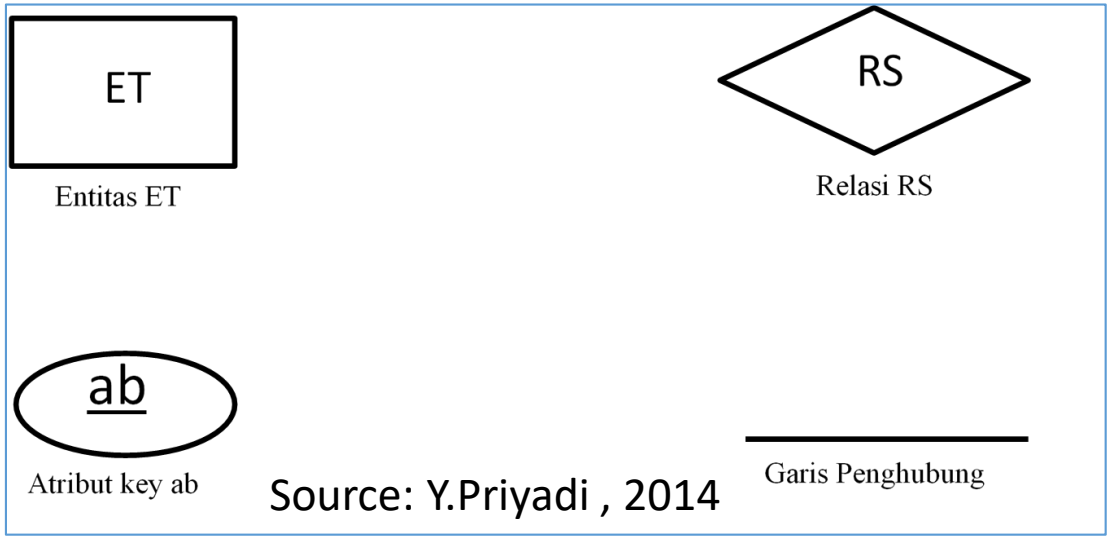
Program Studi: Manajemen Bisnis Telekomunikasi & Informatika
Mata Kuliah: Data Management
Oleh: Yudi Priyadi

# (The process of designing E-R Diagram)

# Learning Objectives

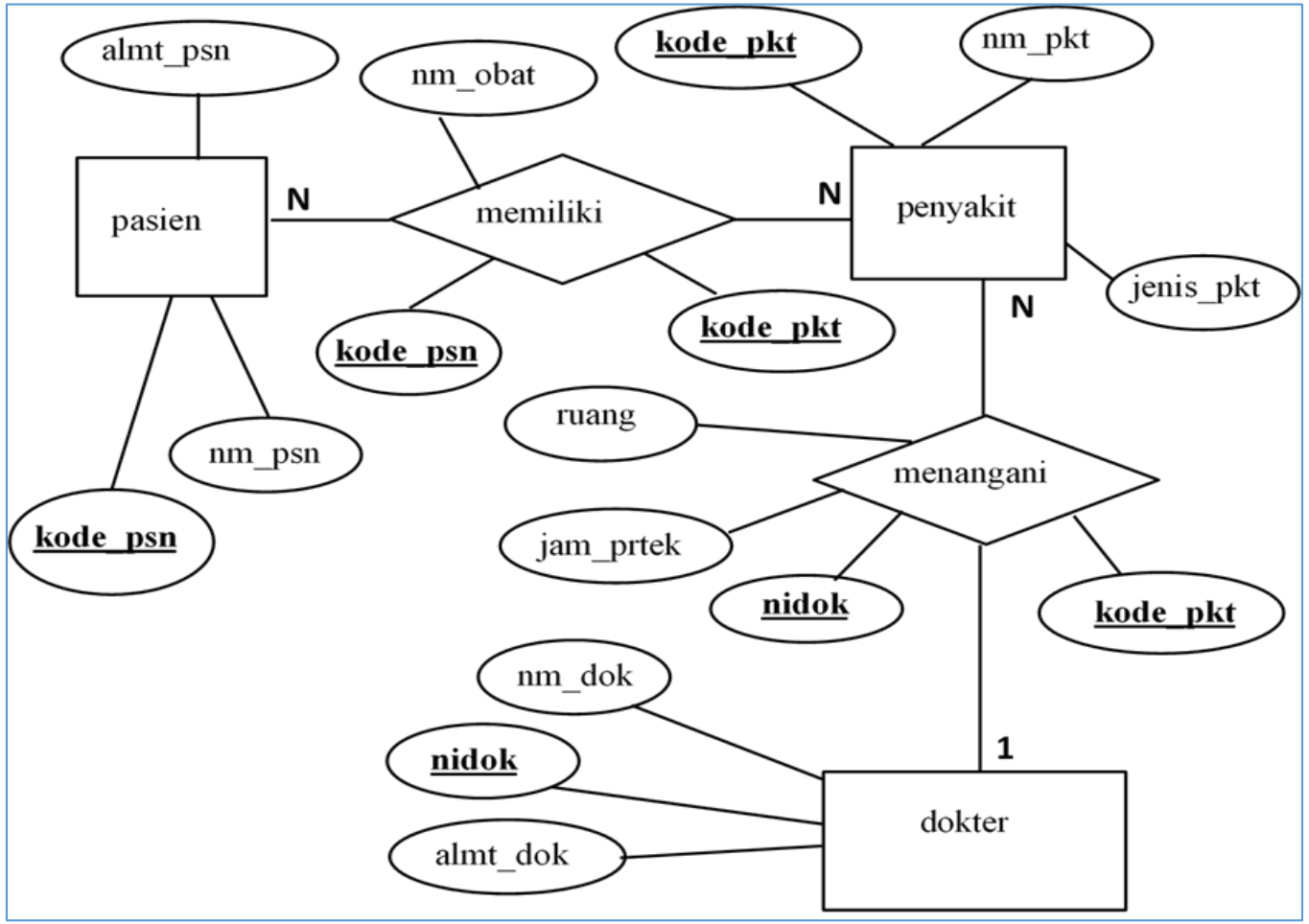
- **Students are able to explain the basic notation E-R D functional,**
- **Students are able to apply the concept of modeling E-R D to a business process that occurs in a system,**
- **Students are able to perform the analysis on a consistent business processes by using assumptions, to design E-R D,**
- **Students are able to evaluate the E-R D that has been made, to determine the feasibility of the diagram, if implemented into a physical table.**

Basic notation E-R D:




Source: Y.Priyadi , 2014

Example:




## Stages Process Modeling Diagram E-R.

Stages of the modeling process used in this case are as follows:

1. Identify Entities,
2. Determine Key Attributes,
3. Identification Relations,
4. Make design estimates,
5. Determine the cardinality,
6. Completing the design with a descriptive attribute.

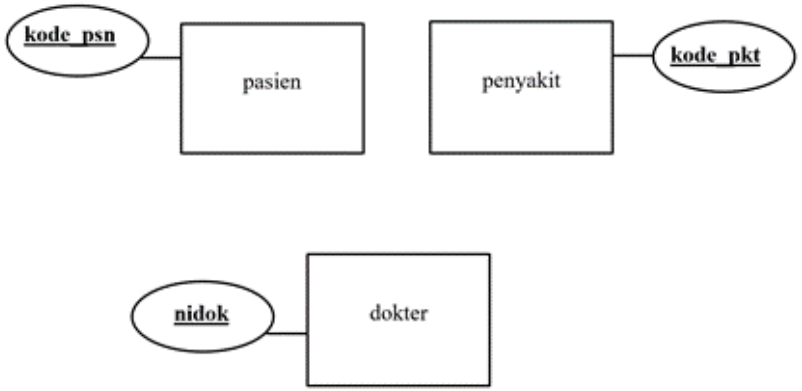
Source: Y.Priyadi. 2014. Kolaborasi SQL & ERD Dalam Implementasi Database (ISBN:978-979-29-2195-3), Andi Publisher

Based on the assumption, the following are examples of the stages of of making E-R diagram contained in a hospital environment:

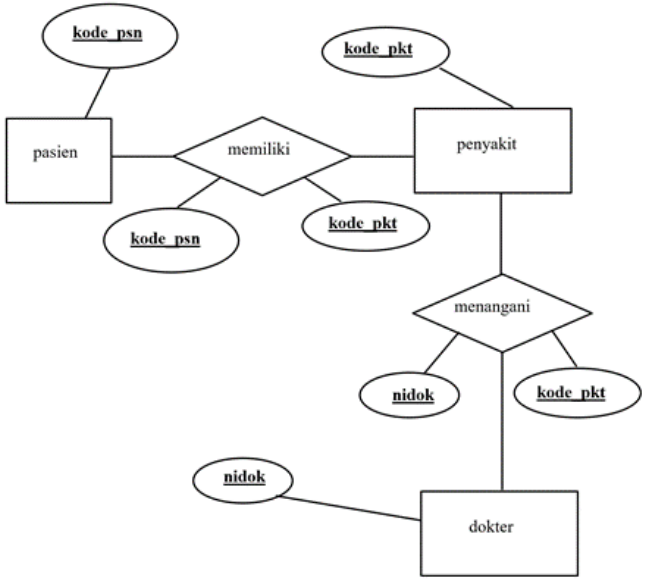
1. To identify the set of entities comprising a candidate / candidates entities involved. Not all candidates Entities that have been identified to be used in the modeling.
2. Determine the attributes that serve as key, for the selected entity and will be used in modeling.
3. To identify the set of relations that consists of the candidate / candidates Relations.
4. Make design modeling estimates based election Entities, Relationships, and Attributes already identified at earlier stages.
5. From the results of the above design, the next step is to determine the cardinality based on the facts that occurred in the hospital environment.
6. At this final stage, conducted a refinement of the Entity that has been presented, through an activity to complete Entities patients, disease entity, and the entity doctor with descriptive attributes as supporting information.

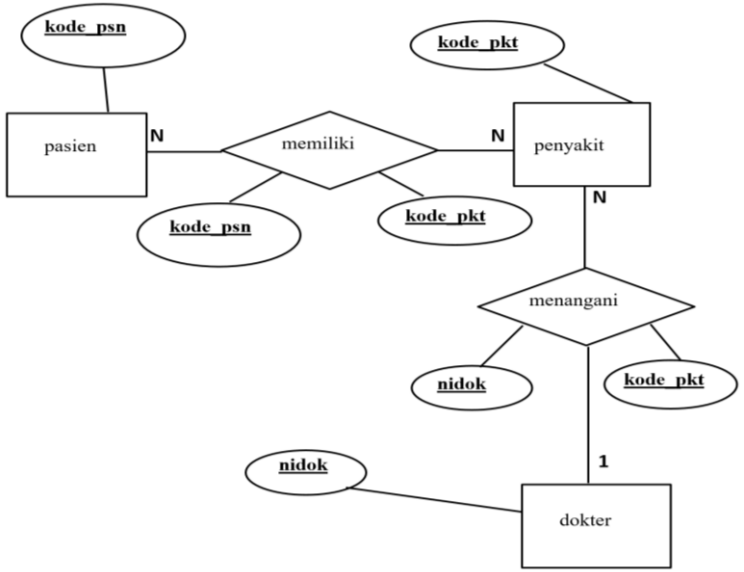
Source: Y.Priyadi. 2014. Kolaborasi SQL & ERD Dalam Implementasi Database (ISBN:978-979-29-2195-3), Andi Publisher

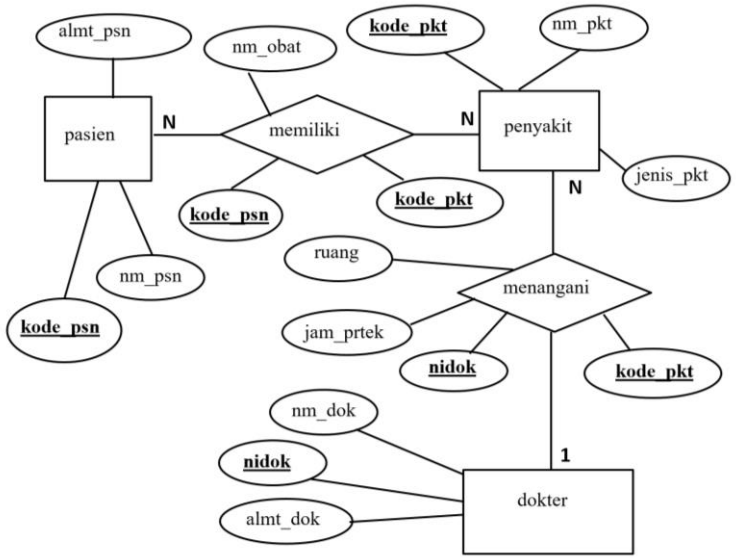
| NO | CANDIDATE NAME OF ENTITY | Write the reason of deletion | PLAN NAME OF TABLES |
|---|---|---|---|
| 1 | pasien | | |
| 2 | suster | | |
| 3 | satpam | | |
| 4 | kepala apotek | | |
| 5 | dokter | | |
| 6 | kepala rumah sakit | | |
| 7 | pemasok obat | | |
| 8 | kasir | | |
| 9 | penyakit | | |
| 10 | kurir obat | | |
| 11 | Etc…. | | |




| NO | NAME OF CANDIDATE RELATIONSHIP | Write the reason of deletion | PLAN NAME OF TABLES |
|---|---|---|---|
| 1 | mengobati | | |
| 2 | membayar | | |
| 3 | berobat | | |
| 4 | menangani | | |
| 5 | memiliki | | |
| 6 | mengepalai | | |
| 7 | Etc……. | | |

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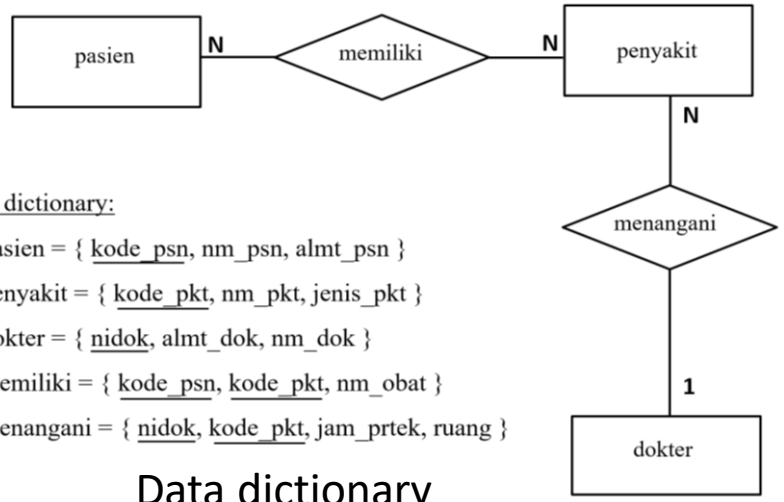
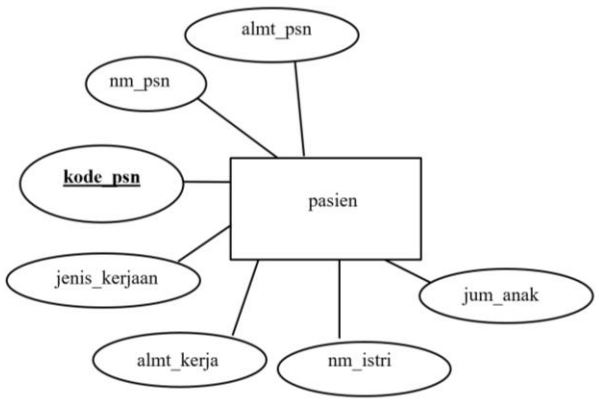


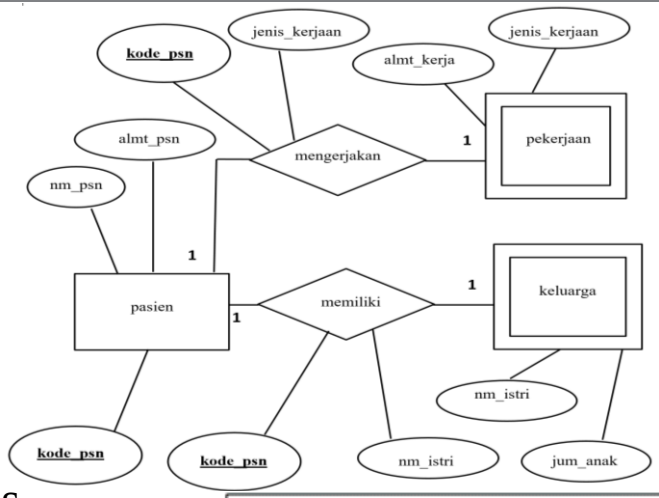

Data dictionary:

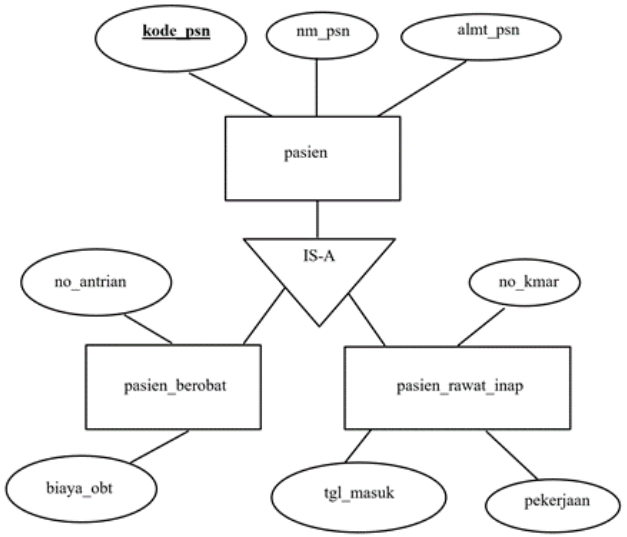
- pasien = { kode_psn, nm_psn, almt_psn }
- penyakit = { kode_pkt, nm_pkt, jenis_pkt }
- dokter = { nidok, almt_dok, nm_dok }
- memiliki = { kode_psn, kode_pkt, nm_obat }
- menangani = { nidok, kode_pkt, jam_prtek, ruang }

Data dictionary



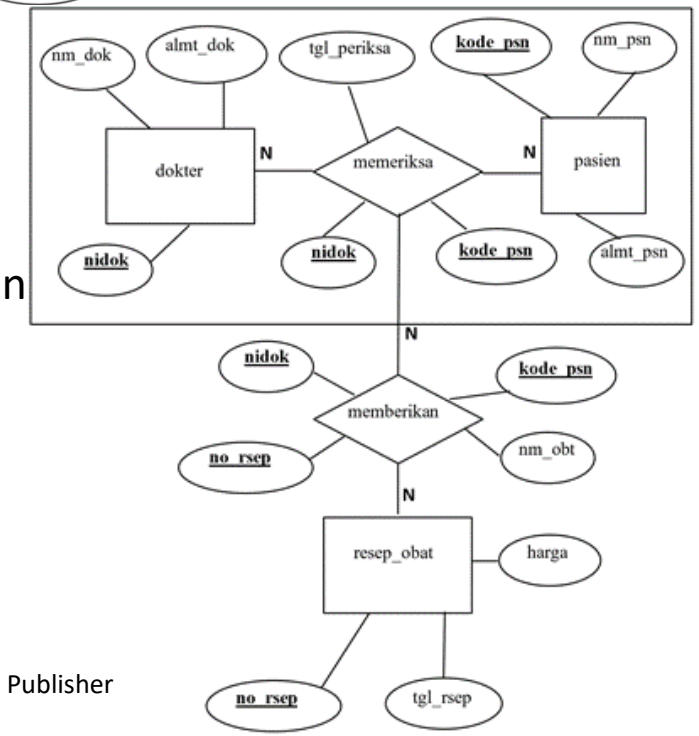

Decomposition Attributes




Decomposition Special Relation for the IS-A

Aggregation

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