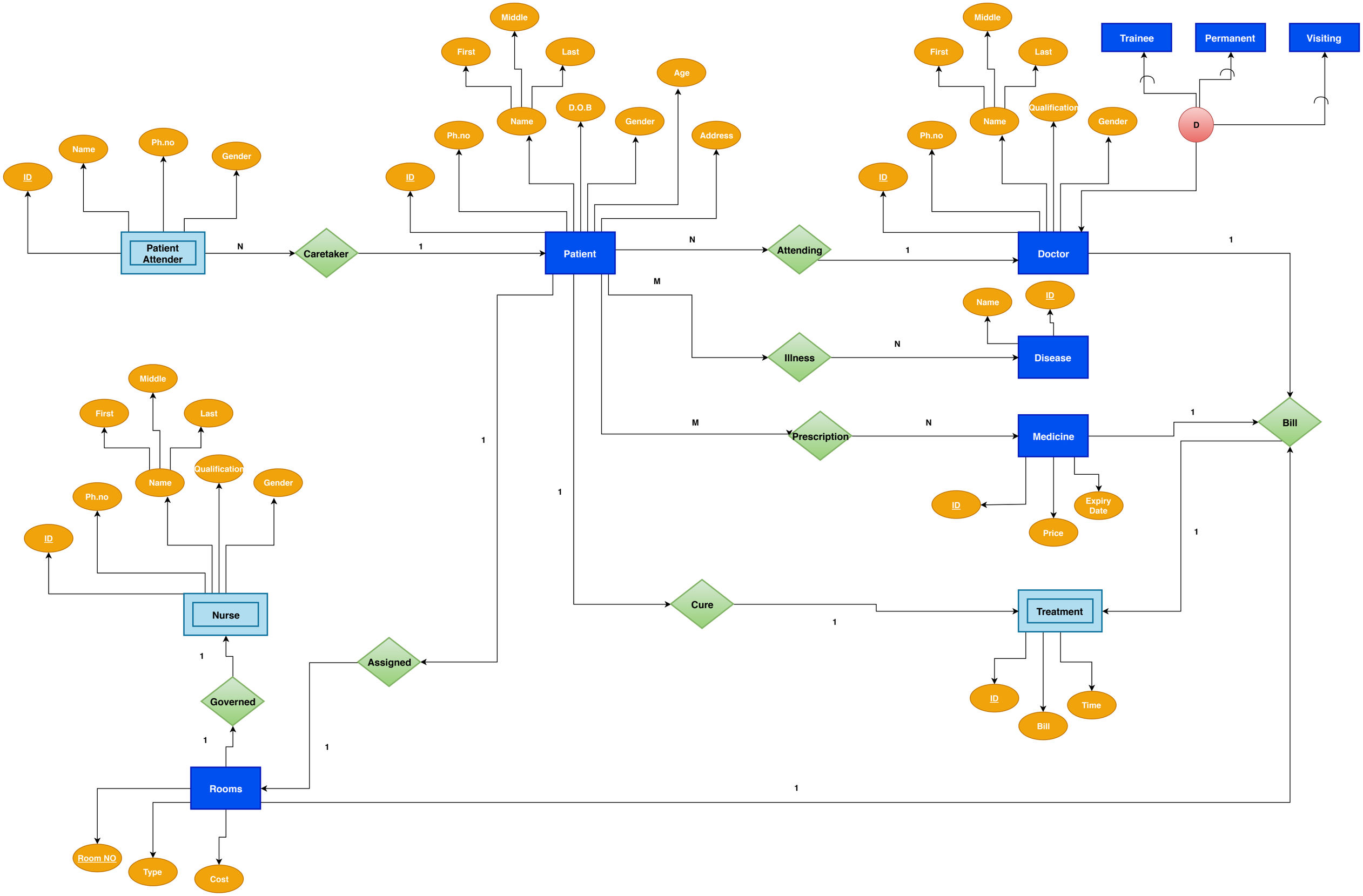

Middle
First
Last
Age
D.O.B
Name
Gender
Ph.no
Address
ID
Patient
Patient Attender
Name
Ph.no
Gender
ID
N
Caretaker
1
N
Attending
1
Doctor
Middle
First
Last
Name
Qualification
Gender
Ph.no
ID
Trainee
Permanent
Visiting
D
1
M
Illness
N
Disease
Name
ID
Middle
First
Last
Name
Qualification
Gender
Ph.no
ID
Nurse
1
Governed
1
Assigned
1
1
M
Prescription
N
Medicine
1
Bill
ID
Expiry Date
Price
1
1
Cure
1
Treatment
ID
Bill
Time
1
1
Rooms
Room NO
Type
Cost
1

STEP 1: (Strong entities)

Patient	
PK	**Patient ID**
	Name
	First
	Middle
	Last
	Address
	Gender
	Ph.no
	Age
	D.O.B

Doctor	
PK	**Doctor ID**
	Name
	First
	Middle
	Last
	Gender
	Ph.no
	Qualification (Multi-valued)
	Class

Rooms	
PK	**Room ID**
	Cost
	Type

Disease	
PK	**Disease ID**
	Name

Medicine	
PK	**Medicine ID**
	Price
	Expiry Date

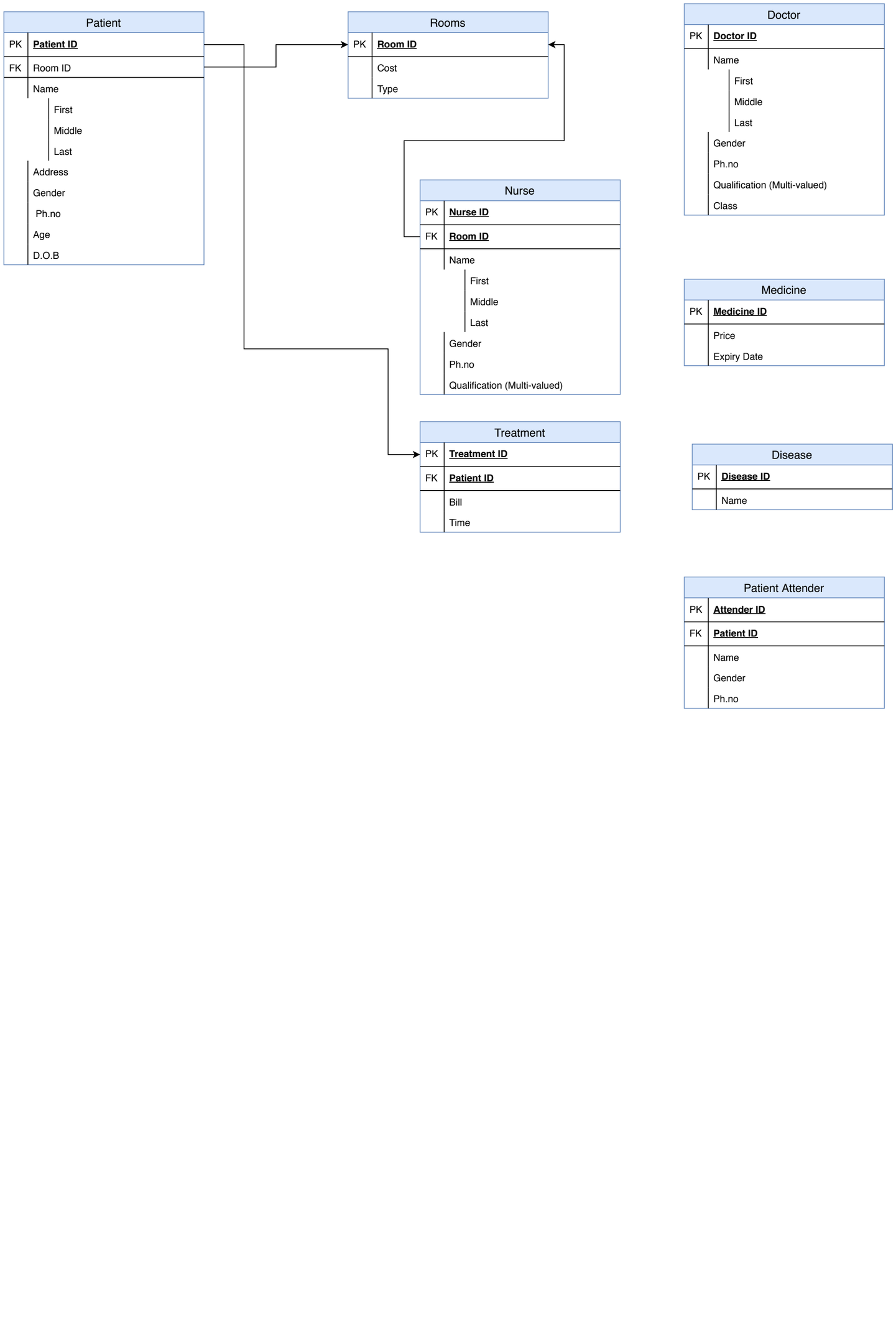
STEP 2: (Weak entities)

Nurse	
PK	**Nurse ID**
FK	**Room ID**
	Name
	First
	Middle
	Last
	Gender
	Ph.no
	Qualification (Multi-valued)

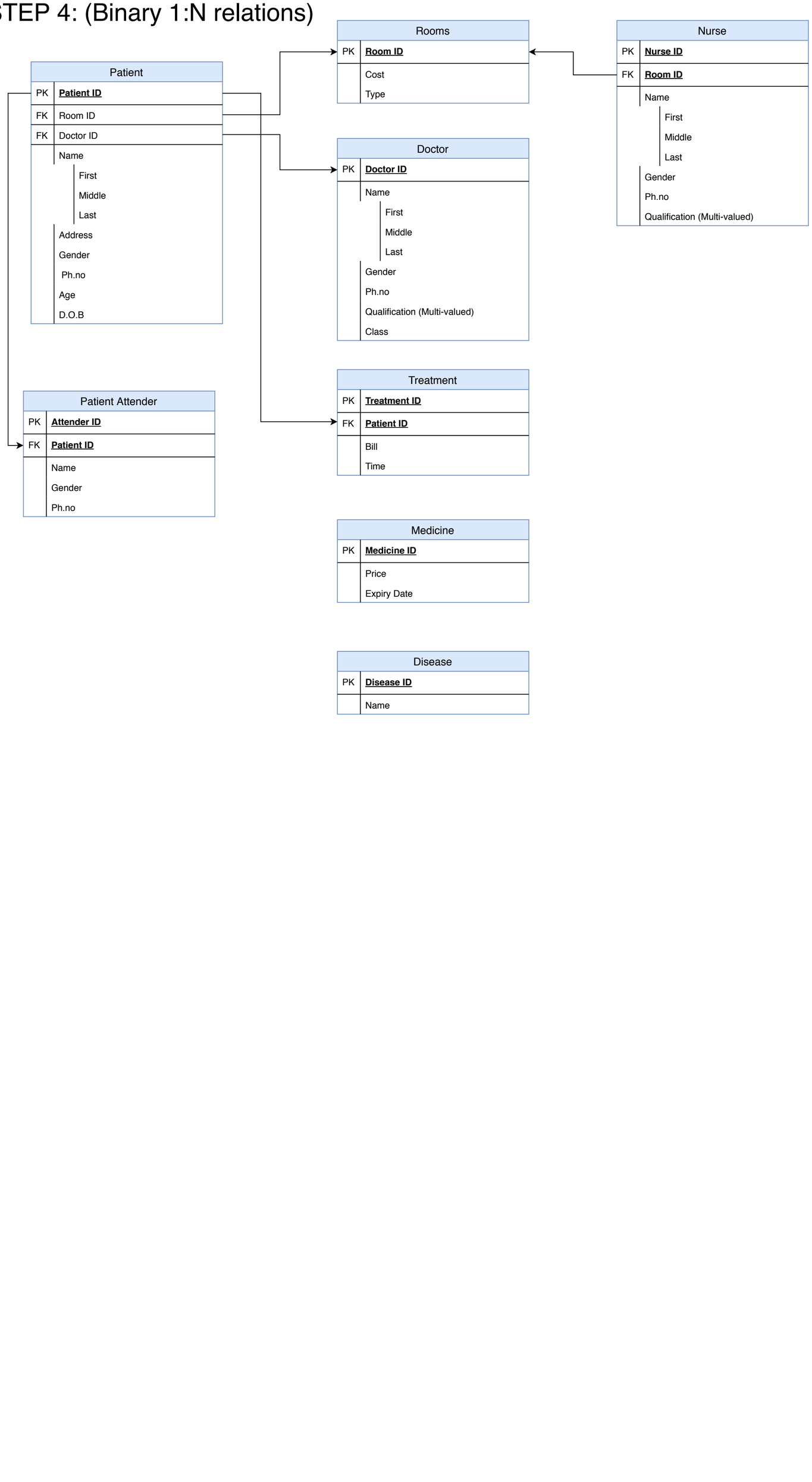
Patient Attender	
PK	**Attender ID**
FK	**Patient ID**
	Name
	Gender
	Ph.no

Treatment	
PK	**Treatment ID**
FK	**Patient ID**
	Bill
	Time

STEP 3: (Binary 1:1 relations)

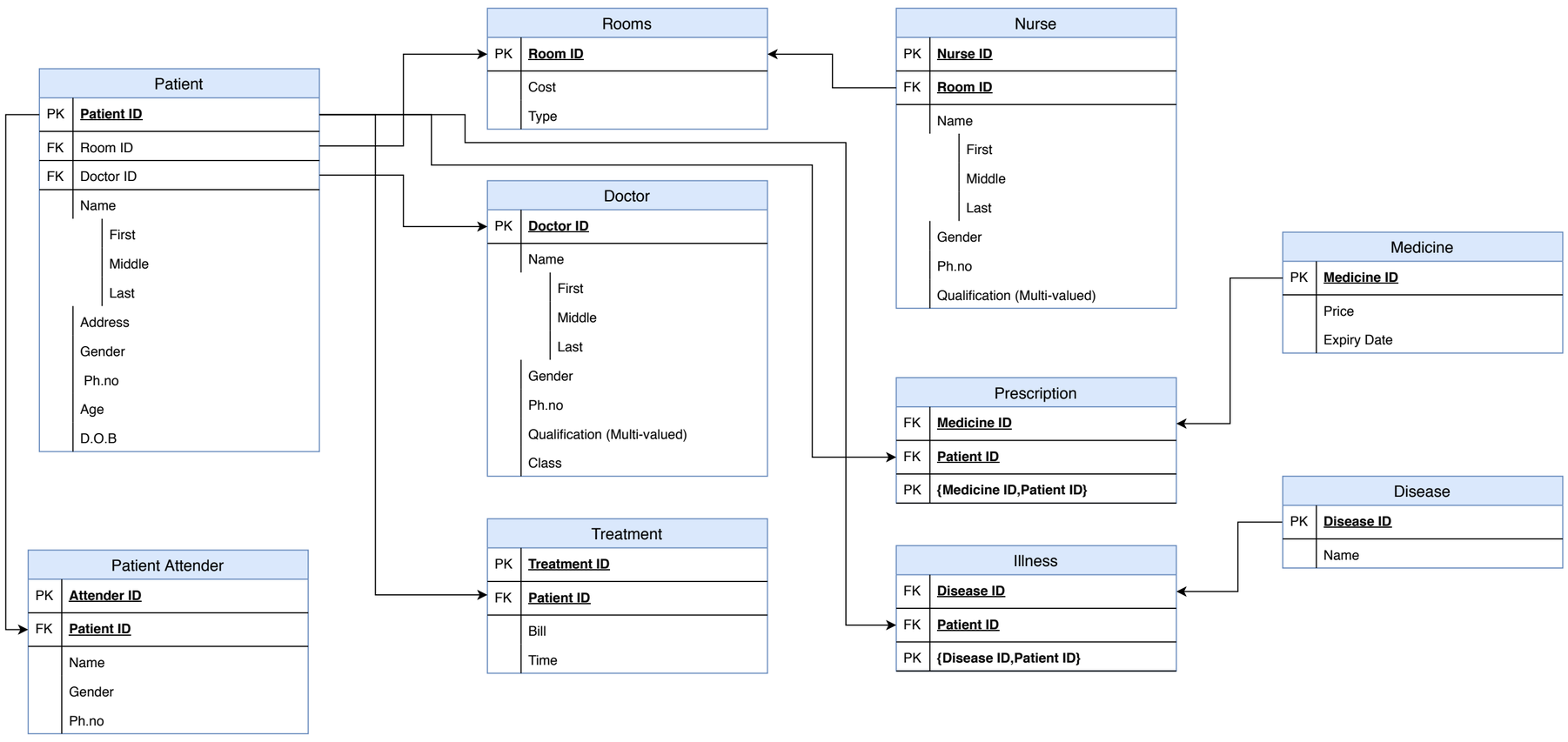


STEP 4: (Binary 1:N relations)



STEP 5: (Binary M:N relations)

1. **Patient -> Medicine**
2. **Patient -> Disease**



STEP 6: (Multi-valued Attributes)

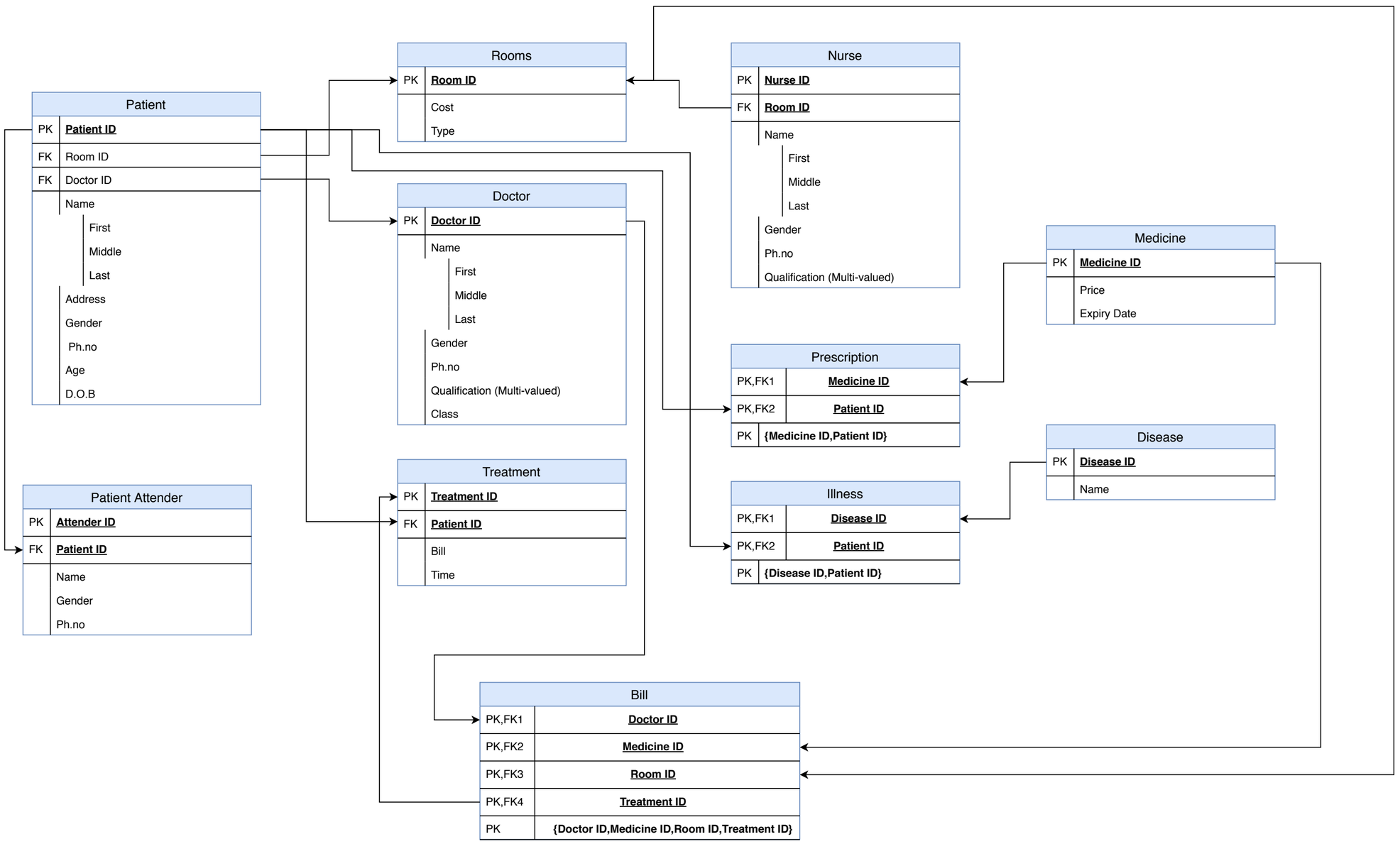
The multi-valued attributes are the qualifications of doctor and nurse

For each of them, we create a new relation.
This relation will include an attribute corresponding to the attribute, plus the primary key attribute(as a foreign key in the relation)of the relation that represents the entity type of relationship type that has the attribute.

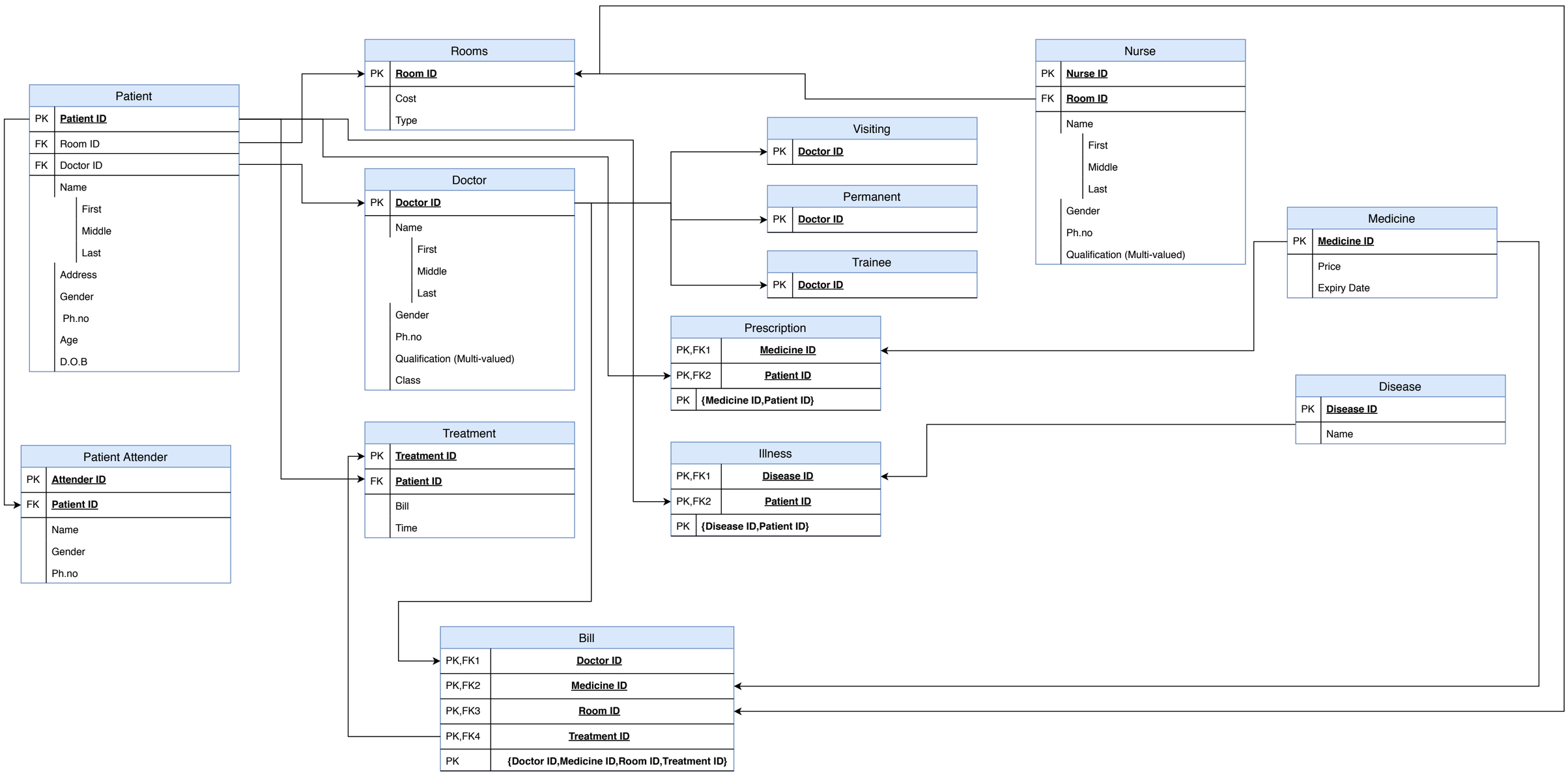
The primary key will be the combination of both.

STEP 7: (N-ary relations)

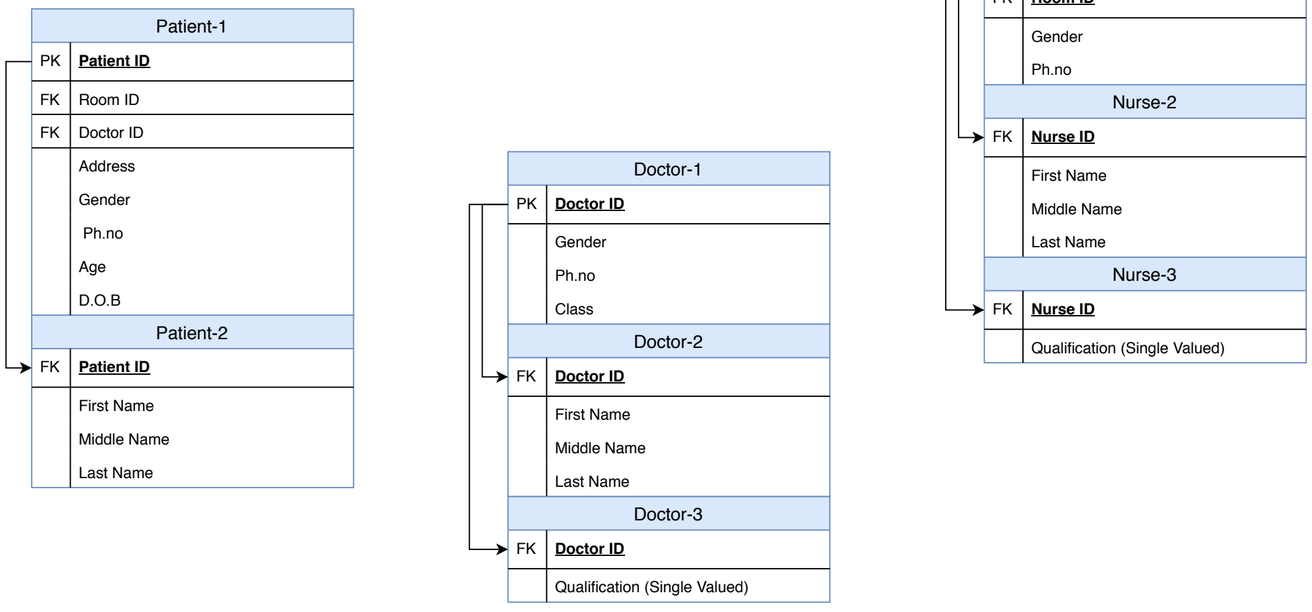
1. **Bill: doctor,medicine,room -> Treatment**



STEP 8: adding subclasses



1st Normal form



Final 3NF Diagram(2NF and 3NF are same as 1NF for this database)