

# **BirthCare Center Systems**



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After having a baby, women face changes and difficulties. These can include feeling sad or anxious. Taking care of a newborn can be tiring. It's important to get help and support from family, friends, and doctors during this time.

The care center for new mothers is a place that offers comprehensive support and education. Once the mother's health is confirmed and there are no complications, she can go to the care center. It's especially helpful for first-time moms as they receive support and education there. They can get help and learn important info. If any health concerns come up, the staff will monitor and examine the newborns and, if needed, refer them to a hospital.

The care center focuses on primary care, so they mainly provide monitoring and exams instead of medications or surgeries. The **mother entity** has attributes like name, age, and contact info, while the **newborn entity** has attributes like name, birthdate, and body mass. **Activities** have attributes like activity ID, name, time, location, instructor, and duration.

The **medical staff entity** has attributes like name, specialization, gender, license number, specialty, phone number, and email. The **mother entity has a relationship with the newborn** entity, indicating that the mother has given birth to that specific newborn, and we can have a **relationship between the mother and activities** to see who enrolled in the activity. Also, the **Medical Staff can have relationships with Newborns**, indicating that they provide care and support to them.

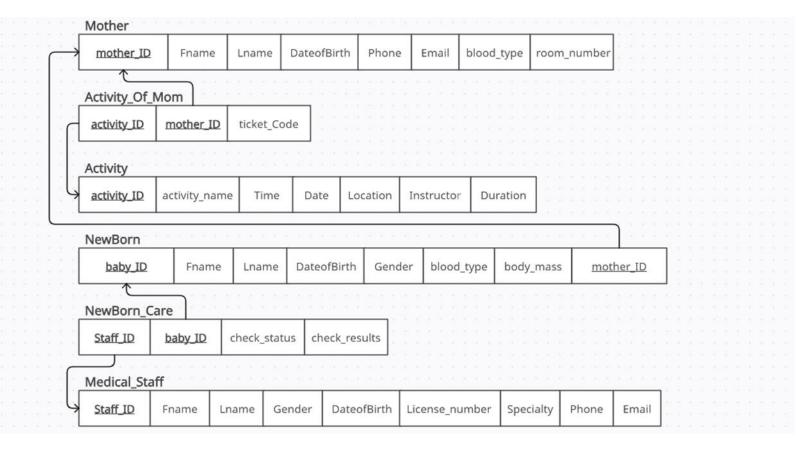


### ERD:

#### **BirthCare Center Systems** Activity of mom is the associative entity between Mother and Activity, it is used to see who is enrolled in an activity. Ticket Code used to track and manage the mother's participation in specific activities within the facility. activity\_of\_mom activity PK mother ID PK,FK1 PK activity ID activity ID name(fname,Iname) PK,FK2 mother ID each mother has a unique ID activity data are the Activity name, number, data includes first and last DateofBirth ticket code activity time date(time,date) activity time and date , The location of the activity, The instructor who name , date of birth, emergency contact and blood type . emergncy\_contact(phone,mail) Mothers are enrolled in one or many leads or teaches the activity, and activities and the activity can have many mothers enrolled in , this is many to many the duration of the activities blood type instructor relationships and the associative entity between them called "Activity of mom" . Dusration room\_number mothers must give birth to one or many newborns Medical staff takes care of one or many babies and new baby must have one and only one mother and each newborn can be taken care of by many Medical staffs, this is many-to-many relationship and can be decomposed in associative entity called "Newborn Care Clinic". medical sttaf PK sttaf ID Newborn Newborn\_care name(fname,lname) data held in medical staff includes the first PK <u>baby ID</u> PK,FK1 baby ID gender and last name, gender, date of birth, License number confirms their FK mother ID PK,FK2 sttaf ID DateofBirth qualifications and authorization to provide medical care in their field, and the specialty each newborn is assigned to a unique number ID. data held about each newborn include first and last check status licesnse number of staff shows the medical expertise and role each staff member is trained for in the name, date of birth, gender, blood type and body mass is a measure of the baby's physical size and is DateofBirth check\_result an important health indicator for newborns. healthcare facility , the phone number and Email of the staffs phone\_number blood\_type mail body\_mass

There is an associative entity between medical staff and Newborns called newborn care clinic. Newborn must be assigned to one or many newborns care clinic and the babies condition can be checked there by one or many medical staffs to see if they're in a good health or not, if they're not they sent to a hospital as soon as possible to receive the necessary treatments, data held are check status and heck results.







# **Normalization:**

Mother (<u>Mother id</u>, Fname, Lname, Date\_of\_birth,phone,email,blood\_type,room\_number) 1NF,2NF,3NF Activity\_df\_mom(<u>Activity\_id</u>, <u>Mother\_id</u>, Ticket\_code)1NF,2NF,3NF

Activity <u>(Activity id</u>, Activity\_name, Date, Time, location, Instructor, Duration) 1NF,2NF,3NF Newborn <u>(Baby id, Fname, Lname, Date\_of\_birth, Gender, blood\_type, body\_mass</u>, <u>Mother id</u>) 1NF,2NF,3NF

Newborn\_Care (<u>Staff\_ID, Baby\_ID</u>, Check\_status, check\_result) 1NF,2NF Staff (<u>Staff\_id</u>, Fname, Lname, Date\_of\_birth, Gender, License\_number, specialty, phone, email) 1NF,2NF,3NF

#Now all table in 1NF and 2NF but not in 3NF; because Newborn\_Care has Transitive dependent which (check status depend on check result)

## Third normal form:

Mother (<u>Mother id</u>, Fname, Lname, Date\_of\_birth,phone,email,blood\_type,room\_number)
Activity\_df\_mom(<u>Activity id</u>, <u>Mother id</u>, Ticket\_code)
Activity (<u>Activity id</u>, Activity\_name, Date, Time, location, Instructor, Duration)
Newborn (<u>Baby id</u>, Fname, Lname, Date\_of\_birth, Gender, blood\_type, body\_mass, <u>Mother id</u>)
Newborn\_Care (<u>Staff\_ID, Baby\_ID</u>, check\_result) 1NF,2NF,3NF
Check (Check\_result, check\_status) 1NF,2NF,3NF