COMP 421 Project Deliverable 1

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1   Assumptions

- This ER model represents only those parents who expressed interest after the information session and were chosen by the institution.
- We assume that each pregnancy is dealt by only the primary and the backup midwife, we do not consider any other midwives involved in the process.
- Baby number only considers the number of baby's this couple has together, we do not consider any children that the mother or father have had previously as part of other couples.
- For appointments where the primary midwife and backup midwife will both be present, only one midwife will be scheduling the appointment.
- The last menstrual period due date and the dating ultrasound due dates are only calculated once i.e. we will not be tracking any previously calculated due dates in case these dates change.

2   Restrictions

- All tests written for a Patient (Mother or Baby) are related to their Pregnancy although this is not explicitly shown in the ER model.
- If a "Birthed at" relation does not exist between a Pregnancy and a Birthing Clinic, the birth will be/was completed at the Mother's address. This ER model does not give the option of selecting Home as a birthing location thus it is inferred.
- Unless there exists a relation between Pregnancy and Birthing Centre, we can not deduce whether the Birthing Institution is a Community Clinic or not as in either case the delivery is to be completed at the mother's home.
- Midwives can not create appointments unless related to a pregnancy
- Model does not indicate whether pregnancy is still active or not given that the Patients (mother and/or the babies) may still have follow-up appointments after the birth

3   Relational Translation

Midwife(<u>practitionerID</u>, name, email, phone number, institutionemail)
  - institutionemail foreign key referencing relation "Employs" with Birthing Institution

BirthingInstitution(<u>institutionemail</u>, name, phonenumber, address, website)
  - Birthing Institution ISA is covering
  - Birthing Institution entity only exists in one of the sub-classes

BirthingCentre(<u>institutionemail)</u>

CommunityClinic(<u>institutionemail</u>)

Pregnancy(<u>pregnancyID</u>, pregnancynumber, menstrualduedate, datingultrasoundduedate, finalduedate, expectedbirth, practitionerID, practitionerID, parentsID, institutionemail)
  - First practionerID foreign key referencing relation "Primary for" with Midwife
  - Second practionerID foreign key referencing relation "Secondary for" with Midwife
  - ParentsID foreign key referencing relation "Have" with Baby's Parents
  - Institutionemail foreign key referencing relation "Birthed at" with Birthing Institution (optional)

BabysParents(<u>parentsID</u>, patientID, fatherID)
  - PatientID foreign key referencing relation "In" with Mother
  - FatherID foreign key referencing relation "In" with Father

Patient(<u>patientID</u>, bloodtype)
  - Patient ISA is covering
  - Patient entity only exists is one of the sub-classes

Baby(<u>patientID</u>, name, gender, dateofbirth, timeofbirth)

Mother(<u>patientID</u>, name, address, phonenumber, QChealthcardID, email, dateofbirth)
  - Mother has a participation constraint for the "In" relation with Baby's Parents

Father(<u>fatherID</u>, name, blood type, address, email, phonenumber, QChealthcardID, dateofbirth)

Appointment(<u>appointmentID</u>, date, time, pregnancyID)
  - PregnancyID foreign key referencing relation "Related" with Pregnancy

Schedules(<u>practitionerID</u>, <u>appointmentID</u>)

- PractitionerID foreign key referencing relation "Schedules" with Midwife
- AppointmentID foreign key referencing relation "Schedules" with Appointment
- Appointment has a participation constraint for the "Schedules" relation with Midwife

Note(<u>noteID</u>, <u>appointmentID</u>, date, time)

- AppointmentID foreign key referencing relation "Written during" with Appointment

Test(<u>testID</u>, dateprescribed, datesampletaken, datelabworkdone, type, result, practitionerID)

- PractitionerID foreign key referencing relation "Assigns" with Midwife

CompletedBy(<u>technicianID</u>, <u>testID</u>)

- TechnicianID foreign key referencing relation "Completed by" with Technician
- TestID foreign key referencing relation "Completed by" with Test

For(<u>testID</u>, <u>patientID</u>)

- TestID foreign key referencing relation "For" with patient
- PatientID foreign key referencing relation "For" with Test

Technician(<u>technicianID</u>, name, phonenumber)

InformationSession(<u>sessionID</u>, date, time, language, practitionerID)

- PractitionerID foreign key referencing relation "Hosts" with Midwife

Registered(<u>parentsID</u>, <u>sessionID</u>, attended)

- ParentsID foreign key referencing relation "Registered" with Information Session
- SessionID foreign key referencing relation "Registered" with Baby's Parents
- Baby's Parents have a participation constraint for the "Registered" relation with Information Session