

## Relational model

### Artificial Keys:

Artificial keys in my diagram and relations are the attributes that are underlined and have an “AID” tag with their name to represent an artificial ID number. The actual attribute names will not have this AID attached to it, but I keep it in the diagram and translation for clarification for the reader.

Mother (Mother QC Health Card, Name, BirthDate, Address, Phone, email, profession, BloodType)

- QCHC means Quebec Health Card

Father (Father ID (AID), QCHC, Name, BirthDate, Address, Phone, email, profession, BloodType)

Couple (CoupleID (AID), QCHC, fatherID (AID))

*QCHC is a Foreign Key referencing Mother*

*fatherID is a Foreign Key referencing Father*

Pregnancy (PregnancyNo, CoupleID (AID), ExpDueDate, finalDueDate, UsoundDueDate, MenstDueDate, interested, PrimaryMidwife, BackupMidwife, birthplace)

- MenstDueDate represents the Menstrual period expected due date
- UsoundDueDate represents the Ultrasound expected due date
- finalDueDate represents the final chosen due date
- ExpDueDate represents the expected due date the mother inserts in the registration

*CoupleID is Foreign Key referencing Couple*

*PrimaryMidwife is Foreign Key referencing Midwife (PractitionerID)*

*BackupMidwife is Foreign Key referencing Midwife (PractitionerID)*

*birthPlace is a Foreign Key referencing BirthCentre(InstituteID)*

Midwife (PractitionerID, Name, Email, Phone, InstituteID)

*InstituteID is a Foreign Key referencing HC\_institute*

InfoSession (SessionID (AID), Date, Time, Language, PractitionerID)

*PractitionerID is Foreign Key referencing Midwife*

Invited (SessionID (AID), CoupleID (AID), attended)

*CoupleID is Foreign Key referencing Couple*

*SessionID is Foreign Key referencing Info Session*

Baby (BabyID (AID), BirthDate, BirthTime, Gender, BloodType, Name, CoupleID (AID), PregnancyNo)

*CoupleID, PregnancyNo is Foreign Key referencing Pregnancy*

HC\_institute (InstituteID (AID), name, address, Phone, email, website)

BirthCentre (InstituteID (AID))

*InstituteID is a Foreign Key referencing HC\_institute*

CommunityClinic (InstituteID (AID))

*InstituteID is a Foreign Key referencing HC\_institute*

Appointment (AppointID (AID), PractitionerID, CoupleID, PregnancyNo, Date, Time)

*CoupleID, PregnancyNo is Foreign Key referencing Pregnancy*

*PractitionerID is Foreign Key referencing Midwife*

Note (AppointID, NoteID (AID), Date, Time, content)

*AppointID is a Foreign Key referencing Appointment*

Technician (TechID, Name, Phone)

Test (TestID (AID), PractitionerID, CoupleID, PregnancyNo, BabyID, TechID, type, PrescribedDate, SampleDate, LabDate, result)

- LabDate represents date of lab work
- SampleDate represents the date the sample was taken
- PrescribedDate represents the date the test was prescribed

*CoupleID, PregnancyNo is Foreign Key referencing Pregnancy*

*PractitionerID is Foreign Key referencing Midwife*

*BabyID is Foreign Key referencing Baby*

*TechID is Foreign Key referencing Technician*

### **Assumptions:**

- If a row in Pregnancy has a NULL for birth location, then birth location will be at home
- If a babyID is NULL for a test, then the test is for the mother; if not null, then the test is for the child
- Boolean like entries like attended (invited table) and interested (pregnancy table) can only be either 'T' for true or 'F' for false

### **Pending Constraints:**

- A pregnancy entity (a couple with their pregnancy No.) can only have any appointments and tests with their primary or backup midwife only
- We cannot make a test on an unborn baby
- If a couple has no father with her, she cannot have two instances of couple where she is on her own

- If a couple consists of a father ID and mother ID (health card), then we cannot have except one couple instance with that combination
- We cannot have any non-digits in the phone number entries in my tables
- The backup and primary midwives cannot be the same for one pregnancy row
- Pregnancy instance cannot have any appointments or tests without showing interest (interest column in Pregnancy table is 'T' for true) and if accepted, they automatically get assigned a backup midwife and a primary midwife and are able to have appointments and tests
- A coupleID cannot appear in the Pregnancy table except if they have attended an info session (attended column in Invited table is 'T' for true)