



✓ **Congratulations! You passed!**

TO PASS 80% or higher

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Tools: Querying Clinical Data Models

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1. The MIMIC diagram shows a "Data archive" that is processed further to create the MIMIC-III database. The three processes are labeled: "de-identification", "date shifting", and "format conversion". What types of impact can these three processes have on the use of the MIMIC-III database (pick all that apply):

1 / 1 point

☒ Patients will not be able to recognize their own medical record

✓ **Correct**

Correct! This is the purpose of the de-identification process

☐ Patients will not be able to request medication refills

☐ The original data will be lost

☒ Complications caused by influenza (the "flu"), which occurs between October and March, cannot be studied

✓ **Correct**

Correct! Date shifting can move events that originally occurred in the winter months to a random month anywhere in the calendar year

2. Even though ROW_ID is present in every table, it should not use this variable in your queries. Which explanation below is most plausible for why ROW_ID should not be used in queries?

1 / 1 point

☐ When there are too many rows, the ROW_ID value can become too large to use in a query or query result

☐ Because ROW_ID is unique, it could be used to re-identify a patient, which is not allowed due to patient privacy concerns

☐ ROW_ID values are reused/repeated across multiple tables, which can cause rows to be replicated in queries

☒ ROW_ID is present only to ensure each row in a table is unique

✓ **Correct**

Correct! The database technical term for this type of variable is called a "surrogate primary key"

3. What are the advantages of having a model that includes both local (source) and network (standard) values for data in a CDM? (pick all that apply)

1 / 1 point

☐ Queries that use standard codes cannot be used by other data partners

☒ Queries that use local codes have less loss of data accuracy than queries that use standard codes

✓ **Correct**

Correct!

☒ ETL debugging can use comparisons between source and standard values to check if terminology mapping is occurring correctly

✓ **Correct**

Correct!

☐ Source data elements can be used by other data partners in a data network

4. Term hierarchies are useful in data queries because?

1 / 1 point

☐ They are easy to navigate using a graphical viewer

☐ They consume less storage space

☐ They combine diseases and procedures together

☒ They enable a large set of related terms to be incorporated

✓ **Correct**

Correct!

5. Which of the following are true statements with regard to MIMIC and OMOP?

1 / 1 point

- ☐ The OMOP CDM cannot be used to support a single-institution study whereas MIMIC was constructed specifically as a single-institutional database.
- ☒ Both CDMs represent patients although they use tables with different names.

✓ Correct

PATIENTS in MIMIC; PERSON in OMOP.

- ☒ Both CDMs store values in their original format.

✓ Correct

MIMIC only stores original values. OMOP stores original values in the source_value and source_concept_id fields.

- ☒ The MIMIC CDM cannot be used to support international collaborations.

✓ Correct

MIMIC does not have the idea of a standard set of terms.

6. In reviewing queries, you learned that there are more admissions than patients. What is the best explanation for this observation?

1 / 1 point

- ☐ Hospitals like to split hospitalizations into multiple admissions so they can submit separate bills for reimbursement.
- ☒ Patients can be admitted to the hospital multiple times over a period of time.
- ☐ Hospitals have many more beds than they have patients. The additional admissions represent these empty beds
- ☐ Patients are often moved to different beds/rooms during the same hospital stay. The additional admissions represent these bed/room changes.

✓ Correct