



# i2b2

## Workbook

### ABOUT THIS WORKBOOK

The purpose of this workbook is to allow i2b2 users to practice running queries, and to understand the capabilities and functions of i2b2 more thoroughly. It is intended to be a supplement to the in-person training session.

This workbook was created in late May 2015. We plan to update this workbook as features in i2b2 are expanded.

### USING THIS WORKBOOK

1. Create a query in i2b2 according to the prompt in the practice set.
2. To check your query, go to the Workplace in i2b2 and expand the Workbook Queries folder. Here you will find all of the queries in this workbook.
3. Drag and drop the query in which you are interested into Query Name. The correct query will populate. You can compare this to the query you created. *Note that the result displayed will be the result from when the query was last run, and therefore, will likely be different from your results.*
4. Repeat for each query in a practice set.
5. Review the key takeaways, which explain important steps to remember when creating certain queries.



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## PRACTICE SET 1

- 1A.** Find the number of alive males who are currently 0-17 years old.
- 1B.** Next, add a diagnosis of diabetes mellitus (ICD-9 code 250) to your query. Find the number of patients, along with a patient breakdown by race.

### Key Takeaways:

- i2b2 includes patients who are dead or alive. Use Vital Status to find Alive or Deceased.
  - You can easily add on to existing queries using i2b2.
  - When querying using patient demographics, your results will be larger because this includes both Epic and WebCIS patients. When you add in any other criteria, diagnosis in this case, your results will only include Epic patients.
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## PRACTICE SET 2

- 2A.** Find the patients who have ever been inpatients, have ever had a diagnosis of clostridium difficile (008.45), and have ever been seen at UNC Hospital.
- 2B.** Find the number of inpatients who had a diagnosis of clostridium difficile (008.45) during an encounter at UNC Hospital.
- 2C.** Find the number of inpatients who had a diagnosis of clostridium difficile (008.45) that occurred more than three times during an encounter at UNC Hospital.
- 2D.** Reuse the query you created for 2B by dragging and dropping it into Query Name within the Query Tool. Now, add on to this query to find the number of inpatients who had a diagnosis of clostridium difficile (008.45) during an encounter at UNC Hospital, and ever had a diagnosis of neoplasms.

### Key Takeaways:

- The term inpatient can be found under Patient Class (OP/IP/ED), which is an Encounter Detail.
- In 2A, we treat all groups independently; however, in 2B and 2C, we wanted all the events to occur in the same encounter. Be sure to select the temporal constraint appropriate for your needs.
- You can set a minimum number of times for an event to occur using the "Occurs" button.
- When running a query using the temporal constraint "selected groups occur in the same encounter," you can treat a selected group independently.

## PRACTICE SET 3

**3A.** Find the number of patients seen at UNC Family Medicine Chapel Hill or UNC Family Medicine Hillsborough who, in the same encounter, had a diagnosis of diabetes mellitus (ICD9 code: 250).

**3B.** Find the number of patients seen at UNC Family Medicine Chapel Hill and UNC Family Medicine Hillsborough who, in the same encounter, had a diagnosis of diabetes mellitus and exclude those who had a diagnosis of diabetes mellitus without mention of complication (250.0).

### Key Takeaways:

- Clinics can be found under Point of Care Location, which is an Encounter Detail.
  - If you want to know information about an encounter that happened at a specific clinic, you will need to use the temporal constraint: selected groups occur in the same encounter.
  - Use the Exclude button to exclude items in a specific group.
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## PRACTICE SET 4

**4A.** Find the number of male patients with a diagnosis of HIV (042-042.99) between October 1, 2014 and April 1, 2015.

**4B.** Find the number of male patients with a diagnosis of HIV (042-042.99) who were admitted October 2014 – March 2015.

### Key Takeaways

- For 4A, you are looking for the date of a diagnosis, so you will use the Dates button and enter the exact dates you are interested in.
- For 4B, you are looking for admission date. Use Admission Date from the ontology to create your query. This is found under Encounter Details > Encounter Specific Dates.

## PRACTICE SET 5

**5A.** Find the number of outpatients who had a completed encounter.

**5B.** Find the number of outpatients who had a completed encounter at Rex Hospital.

### Key Takeaways

- The term outpatient can be found under Patient Class (OP/IP/ED), which is an Encounter Detail.
- Outpatients seen in the hospital will have an ADT status, while outpatients seen at clinics may not. To find all of the outpatients, use the term “Discharged,” under ADT Patient Status and the term “Completed,” under Encounter Status. Both of these are Encounter details. These terms should be placed in the same group because we are looking for either of these.
- Finally, in order for these queries to work, you will need to change the temporal constraint to “Selected groups occur in the same encounter.”

QUESTIONS? Email the i2b2 Team at [i2b2@listserv.unc.edu](mailto:i2b2@listserv.unc.edu).