Instructions are based on Cognos 8 BI, Report Studio, version 8.2

1. Click on **Query Explorer** and Click on **Queries**. **Query1** will display (Rename if desired by clicking on Query1 and changing name in Properties box under Miscellaneous/Name)

2. Double click on **Query1**

3. Find the tables/data items in the **Insertable Objects** pane. You will need to open any needed collapsed folders.

4. Left click and drag items over into the **Data Items** block or double click on each item. You will need to include data items for all needed report columns, filters, and items that are used to join to other tables (i.e. Pidm, Term Code Key, etc.)
5. Create filters as needed by dragging **Data Items** or **Insertable Objects** into the **Detail Filters** block.

6. When complete, return to **Query Explorer** and click on **Queries**.

7. Click on **Query** in the **Insertable Objects** pane and drag into work area. **Query2** will appear. Double click on **Query2**.

8. Find the tables/data items in the **Insertable Objects** pane. You will need to open any needed collapsed folders.

9. Left click and drag items over into the **Data Items** block or double click on each item. You will need to include data items for all needed report columns, filters, and items that are used to join to other tables (i.e. Pidm, Term Code Key, etc.) **Repeat Step 5 above to create filters.**

10. When complete, return to **Query Explorer** and click on **Queries**
11. Click on Join in the Insertable Objects pane and drag into the work area. Query3 will appear with two empty boxes.

12. Drag Query1 into the top empty box connected to the Join. This creates a shortcut replica of Query1.

13. Drag Query2 into the bottom empty box connected to the Join. This creates a shortcut replica of Query2.

14. Double Click on Query3.

15. In the Insertable Objects pane, click on Join and drag list over to the Data Items block. This brings over data fields now combined in both Query1 and Query2.
16. Return to *Query Explorer* and double click on *Queries*.

17. Double click on the yellow *Join* object next to *Query3*.

18. In the new box that opens, click *New Link* to create joins between columns. Click *New Link* for any additional joins needed.

19. Check cardinality for each link created.
20. Repeat steps to add additional tables/views using this structure.

21. Click on **Page Explorer** and **Page 1** under **Report Pages**.

22. Click on the report object to highlight (usually a list or crosstab report).

23. Click the *up arrow* on the **Properties** pane and click on **List**.

24. Under **Data** then **Query**, all created queries should be listed.
25. Click on the column then click on the down arrow. Click on **Query3 or the last joined query**. (This will force the report to use the "joined" query data.)

26. At the bottom of the **Insertable Objects** pane, click on the middle tab. Scroll down until **Query3** data is viewable. The data columns will have red and yellow lightening bolts across the icons indicating they are joined data columns.

27. Drag or double click the data column items from **Query3 ONLY** onto the report. Finish building report as needed.
HINTS:

• This document is structured with the standard Cognos query naming convention of Query1, Query2, etc. Renaming the queries is recommended! Using Banner table names is suggested for easy recognition.
  - Click on the Query in the Query Explorer and change the name in the Properties pane under Miscellaneous then Name.

• Creating Filters – Filters should be built in the query where the data column originally resides. This will optimize the queries processing. However, joined data can be filtered as needed.

• Changing Auto Group & Summarize - Changing this field to ‘No’ for each query and join query (except the final one) may need to be done. If it is set to ‘No’, detail rows will be rendered. Leaving it set to ‘Yes’ can cause inconsistent aggregations and incorrect data results.
  - Click on Query in the Query Explorer. In the Properties pane under Data and Auto Group & Summarize, click on the field with ‘Yes’ then click on the drop down arrow and click ‘No’.

• Check Aggregation Types on Insertable Objects – When bringing over Insertable Objects into the Data Items block, watch for aggregation icons on each column. With OLTP data this can be a problem with PIDM_Key and Age columns in the Object Access views.
  - Click on the Data Item and change the Aggregate Function in the Properties pane, usually to None or Automatic.

• Need for Data Items from Insertable Objects – When building queries and deciding which Data Items you’ll need, consider three things:
  - Is it a column needed on the final report?
  - Is it a column needed for future joins to other queries (like PIDM or Term)?
  - Is it needed for a filter?

• Tabular Data Check – As you build the multi queries, check each query and each query join by running the report In View Tabular within Report Studio. (Data output will appear very much like the Results section in Brio). This will aid in finding data errors, filter problems, and join issues as you create the multi queries.

• IPFW publishes a secured Banner instance for this method of query creation. It is not intended to be a replacement for FrameWork Manager modeling. This method is best used to join small numbers of tables or views together for ad-hoc reporting by advanced report authors. FrameWork Manager models have pre-defined relationships and need to be considered when multiple reports are needed for similar or repetitive reporting needs from OLTP.