

Frontiers Informatics: Research Tools to Get and Manage Information

- **HERON:** de-identified repository integrates clinical, administrative and research data for KUMC. (1/2 billion facts, 1.8 million patients)
 - <https://heron.kumc.edu> (you must be on campus or VPN in to campus network)
- **REDCap:** a web-based tool to build and manage research databases.
- **Learn:** attend our bi-weekly Frontiers Informatics Clinic
 - Tuesdays 4-5pm in 1040 Dykes Library at KUMC
- **Collaborate:** for informatics assistance developing your research to incorporate these tools, register a project with Medical Informatics at: <http://biostat-pts.kumc.edu/eres/jsp/kumcpr.jsp>
 - Identify Frontiers as Center Affiliation
 - Mention tool (REDCap or HERON) in the comments

Example: An query against HERON for currently supported cancer centric data sources

The screenshot shows the i2b2 Query & Analysis Tool interface. The top navigation bar includes "Find Patients", "Admin", "Analysis Tools", "Message Log", "Raven", "Send Feedback", "Help", and "Logout". The main interface is divided into several panels:

- Navigate Terms / Find Terms:** A tree view showing data sources like "Heron Wilson (Contains June 2011 data)", "Demographics", "Diagnoses", "Flowsheets", "Laboratory Tests", "Medications", and "Procedures".
- Workplace:** A list of folders including "SHARED" and "rwaitman".
- Previous Queries:** A list of recent queries with their IDs, timestamps, and user names.
- Query Tool:** The central area for building a query. It shows a "Query Name" field and three groups of criteria. Each group has a table with columns for "Dates", "Occurs > Dx", and "Exclude". The groups are connected by "AND" operators. Below the groups are green boxes labeled "one or more of these".
- Query Status:** A box at the bottom right showing the status of the query: "Finished Query: 'N-W-0-0-0-S-A@16:11:44'" and "Patient Count - 8517 patients" with a "FINISHED [15.0 secs]" indicator.

Any neoplasm ICD9 diagnosis (106,000 patients) and a WBC count (121,000) -> **44,000** distinct patients, *require height (123,000) and weight (154,000) -> **35,000** patients, •require Wong-Baker pain scale (84,000) -> **14468** patients, •Body Temperature (158,000) -> 14463 patients, •Surgical Pathology Procedures CPT (85,000) -> **12446** patients,

Finally selective serotonin 5-HT3 antagonist antiemetics -> **8517** patients

With our improved hardware (Fusionio memory cards), the cohort size is returned in 15 seconds for this 8 group query.