

Frequently Asked Questions

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Cancer Research Integrated Informatics System (CRIIS)

What is CRIIS?

Answer: CRIIS is the Cancer Research Integrated Informatics System that brings together the Cancer Center's previously siloed clinical data along with RS21's proprietary non-clinical community insights data to provide a more holistic view of potential cohorts to help accelerate researcher innovation and more efficient study design.

The CRIIS integrated data warehouse ingests and normalizes nightly updates from multiple data types and sources including:

- electronic health records (Mosaiq & Cerner)
- clinical trials (Velos)
- patient registry (CNExT & New Mexico Tumor Registry)
- genomic germline and somatic reports (Foundation Medicine & Invitae)

Once completed, the secure, web based CRIIS application platform that is coupled to the integrated data warehouse will enable you to:

- quickly search for and characterize potential cohorts
- build maps blending clinical and non-clinical socio-economic and social determinants of health data
- build and analyze cohorts using with the OHDSI consortium's Atlas tool set
- easily organize and access saved work

CRIIS has been designed and is being built in close collaboration with a user advisory group comprised of representatives from different Cancer Center program areas spanning:

- Clinical Therapeutics
- Cancer Control & Population Science
- Cellular & Molecular Oncology
- Community Outreach & Engagement (COE)

Why do I sometimes have issues accessing the CRIIS platform?

Answer: A: CRIIS has been developed in close collaboration with your Security and Compliance team to ensure the safeguarding of protected health information (PHI).

You can sign into CRIIS without having to add your login and password, but you must first be logged into the UNMH network and properly connected.

Here's what you should remember:

If you are working on site from your office, you should NOT be connected via the Virtual Private Network (VPN).

If you are working from home, that is when you should use the VPN connection.

Additionally, your access to PHI data may be limited unless you have been so authorized as part of the CRIIS Access Approval process. Please contact your administrator for further information.

Atlas

What is Atlas and when should I use it?

Answer: Atlas is a web application offered by the OHDSI (Observational Health, Data Science & Informatics) consortium that enables you to define cohorts and run different analyses using the data that has been integrated in the CRIIS Data Warehouse.

This data includes the following types and sources:

- electronic health records (Mosaiq & Cerner)
- clinical trials (Velos)
- patient registry (CNExT & New Mexico Tumor Registry)
- genomic germline and somatic reports (Foundation Medicine & Invitae)

With Atlas you can first define patient cohorts based on clinical phenotypes and then analyze those cohorts using the Atlas tools for:

- characterization
- incident rates
- population-level estimation
- patient-level predictions
- individual patient profile analysis

With the characterization module you can calculate descriptive statistics for the cohorts you have defined.

You can also run analyses on treatment pathways, incidence rates and prevalence. With the patient profile module, you can analyze a given patient over time using the different data domain elements for which they have records, such as conditions, procedures, drugs, labs, imaging, etc.

With the population-level estimation module you can estimate average causal effects of exposures (e.g., medical interventions such as drug exposures or procedures) on specific health outcomes of interest.

With the patient-level prediction module you can develop clinical prediction models to predict a diagnostic or prognostic outcome based on patient characteristics (e.g., demographics, disease history, and treatment history).

Atlas

Can I download a quick overview cheat sheet of things I need to know using Atlas?

Answer: Sure download this the [Atlas cheat sheet here](#).

Why am I getting data errors in Atlas?

Answer: Because CRIIS integrates individualized patient data, it is set up to limit access to Protected Health Information (PHI) for those users who do not already have an approved IRB in place. Unless you have been granted PHI level access to CRIIS, you will not be able to see results that include location data below the county level or data derived from dates of birth.

Can I download Patient data for analysis for other software?

Answer: No. Patient data is not currently available for download through CRIIS. If you would like to conduct analyses you can use Atlas, which provides cohort characterization, incidence and prevalence estimation. You can also use it to build comparative cohort studies.

If your study cannot be conducted within Atlas you can reach out to the CRIIS system administrator to request a data extract from the CRIIS data warehouse.

Can I look up individual patients?

Answer: You cannot search for individual patients within CRIIS; however, PHI authorized users can use the Patient Profile module within Atlas to search for patients by MRN.

Is it possible to determine a patient's home address?

Answer: No. All patient home locations are reported at the county level or greater. It is not possible to view home locations for regions smaller than count.

Can I use Atlas to analyze a cohort I created in CRIIS?

Answer: No. Not directly at this time.

While you can use patient cohorts you create in CRIIS to guide you, they are not directly available in Atlas. Similarly, patient cohorts created within Atlas are only available to Atlas.

If you would like to characterize a patient cohort beyond what is currently available in CRIIS you will need to redefine your patient cohort in Atlas using the Cohort module. Once your cohort has been defined in Atlas you can use Atlas to run detailed characterizations or use the cohort as a comparator in a comparative cohort study conducted within Atlas.

Atlas

Why don't I see records for Specimen domain in Atlas?

Answer: Unfortunately, Atlas has a known bug where it is not properly reflecting the summary count of records for the Specimen domain.

The good news is that the CRIIS integrated data warehouse does in fact have records within the specimen domain, AND you can build cohorts with the specimen criteria.

The bad news is that for now, you will not be able to do a data search and see the record counts until you have done the work to create the concept set and the cohort.

The OHDSI community is tracking the issue [here](#) but does not yet have a planned resolution for the issue until their release of Achilles 2.0.

My Workspace

Top 5 Things to know about using My Workspace

1. Easily save, retrieve and continue your work all from one central location to save time and effort.
2. No need to worry about interruptions, CRIIS will automatically save your work if you need to step away and the application times out. Revisit your work anytime.
3. Start with the left-hand navigation panel. My Workspace is organized around each of the key CRIIS features, whether you have defined a composite ranked score map, Atlas cohorts or analyses, or CRIIS Queries and Tables.

View your saved work details in card view or switch to list view to see more results

4. Use the sort or search filter to quickly find your work and then edit and rename saved work within My Workspace. If you want to revise work, you can load it and then save it either by overwriting your previous work or save as a new definition.
5. Remember that you are saving the definitions for CRIIS to execute, not actual files. This approach ensures you are always working with the latest data, because the underlying data for CRIIS updates nightly.

What happens if I had to step away, and I was logged out before completing my work?

Answer: CRIIS automatically saves your work for you if you are called away and the application times out for security compliance.

Simply navigate to My workspace and look for saved work with your name in the title and the corresponding date and time.

If you load a saved map definition and then are called away and timeout without making any changes, simply reselect that map on your return.

If you load a saved map, make changes, and then are called away and timeout, CRIIS will automatically update your existing saved map definition with those changes.

What if I want to delete my saved work?

Answer: For Saved Maps, simply select the 'Remove Multiple' option in either card or list view, and then select and delete your desired map definitions.

For Saved Atlas work, you will need to click on the desired cohort or analysis, navigate to Atlas and delete the work from within the Atlas application.

My Workspace

What if I need to quickly find a specific saved map definition?

Answer: Simply use the 'Search by Title' option. You can also sort saved work alphabetically or by most recent or oldest.

How often is CRIIS data updated and how does that affect my saved work?

Answer: CRIIS data is updated nightly across the seven different integrated sources. CRIIS takes the approach of saving the definitions for your work, not the actual files, so you will always be up to date with the most current data. Should you wish to focus on specific date ranges, you can always specify those dates as part of your definitions.

The Social Determinants of Health Data powering the Map Builder is refreshed at different periods based on the intervals defined by the different sources. The US Census data has different geographic areas and measures that are updated on different intervals from one to two to five to ten years depending on the type of data and the specific survey or program.

The key intervals for the main Census Bureau measures

- 1. Decennial Census:** Conducted every 10 years (years ending in "0"). This is the most comprehensive survey, covering the entire U.S. population and providing detailed demographic data.
- 2. American Community Survey (ACS):**
 - 1-Year Estimates:** Annually, for areas with populations of 65,000 or more
 - 5-Year Estimates:** Annually, for all areas regardless of population size. These provide data aggregated over a 5-year period, offering more precise information for smaller areas and populations.
- 3. Economic Census:** Conducted every 5 years (years ending in "2" and "7")
Provides detailed information on the structure and functioning of the U.S. economy, including data on industries and businesses.
- 4. Census of Governments:** Conducted every 5 years (years ending in "2" and "7")
Provides comprehensive data on the organization, employment, and finances of state and local governments.
- 5. Population Estimates Program (PEP):** Conducted annually
Provides estimates of the population for the United States, states, counties, cities, and towns, used for planning and policy making.
- 6. Current Population Survey (CPS):** Conducted monthly
Provides data on labor force status, demographics, and other characteristics of the U.S. population.
- 7. Economic Indicators (e.g., Retail Sales, Manufacturers' Shipments, Inventories, and Orders):** Conducted Monthly or quarterly.

The Centers for Disease Control (CDC) updates most of their data on an annual basis, but they too have different intervals for different programs and measures.

Map Builder

Top 5 Things to know about using Map Builder

1. Dynamically build custom maps of an almost infinite combination of different socio-economic, population health, and demographic measures. See an overall distribution and drill into the details for a given state, county, census tract or tribal census tract
2. Map Builder offers 3 different map views:
 - Raw Measures view** - visualize the geographic distribution for a single measure at a time
 - Demographics view** - visualize 24 different demographic measures across ethnicity, race, age group and gender
 - Composite Rank Scores view** - create custom combinations of different measures that are then ranked by the relative density of those combinations in each geo-geographic unit (county or census tract)
3. You can only build a map for 1 year at a time, but you can easily see changes across time by selecting a different year and rebuilding your map
4. Build maps for New Mexico only or draw your own custom boundaries to visualize measures in different areas
5. Quickly access and re-use or revise previous work with saved definitions for composite rank score maps in My Workspace

Why do measures or years or geo-granularity options become unavailable when I make selections, and why do I see alerts for certain combinations of data?

Answer: Map Builder integrates data from multiple public sources such as the U.S. Census, the Centers for Disease Control, the US Department of Agriculture, etc.

Unfortunately, these sources do not consistently capture data for each year and every geographic area at all levels of geo-granularity (state, county, census tract or tribal census tract).

Map Builder automatically filters those elements where data is not available to save you time and avoid the frustration of building maps that have holes in the data.

Why must I choose a combination of year, measure, and geo-granularity level for every map?

Answer: To enable you to quickly build such a wide range of custom maps, Map Builder is pulling from billions of records of data across multiple data sources. Picking defined combinations of measures and geo-granularity for each year allows Map Builder to return results quickly.

This approach also minimizes the frustration of generating maps with missing data given the significant inconsistency across years and geo-granularity levels in the source data.

Map Builder

How can I easily clear my Map Builder selections and start over?

Answer: Simply click on the refresh button on your browser tab and the Map Builder will clear and enable you to start over.

What is the Composite Rank Score view and how do I use it?

Answer: The Composite Rank Scores map view is designed to help you innovate new thinking about non-clinical factors that might influence study design, cohort participation or patient treatment.

With Composite Rank Scores you can quickly build maps using different combinations of socio-economic, population health and demographic measures and compare the density of those measures across different geographic areas.

In addition to quickly iterating multiple different combinations, Map Builder gives you even more flexibility by enabling you to define the weight assigned to each active measure. Simply click on the weighted measures button at the bottom of the left navigation panel.

Watch the short explanatory video and learn more about how the scores are ranked by clicking on the “I” button in the map legend that is at the bottom of the map window.