UNIVERSITY OF UTAH
HUNTSMAN
CANCER INSTITUTE

Clinical Research Platform for Collecting, Integrating, and Accessing Customized Clinical Data

CONFIGURATION

Supports configuring cancer-oriented data on-the-fly through the HCI Configure-on-Demand (COD) interface.

INTEGRATION

CCR is integrated with multiple data sources to reduce manual chart abstraction, including the medical record, tumor registry, specimen data, and molecular testing results.

COLLABORATION

All cancer groups share a common patient and can share securely medical event data with each other.

RISR
Research Informatics
Shared Resource

risr.hci.utah.edu

The Cancer Clinical Research (CCR) database is a patient-centric clinical annotation system for clinical and population sciences investigators to capture clinically relevant phenotypic and genotypic data and integrate with other data sources. Integrations include the University of Utah Health Enterprise Data Warehouse (EDW), the HCI Tumor Registry, somatic testing results, and specimen tracking data.

CCR serves as a common repository for cancer-specific clinical and research data to support clinical and translational research. Much of the information in the repository assists in viewing the patient longitudinally, progressing from pre-disease history and screenings to diagnosis, treatment, and follow-up.
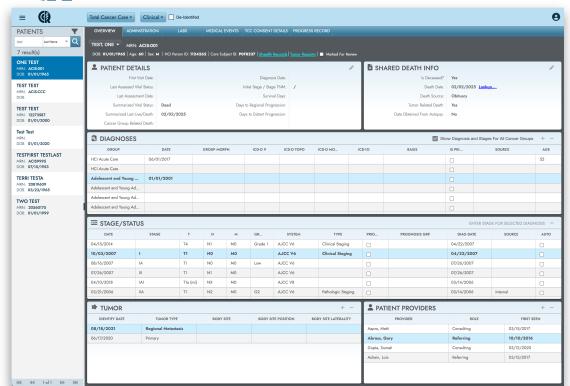
The repository is not a repetition of the existing medical record, but instead:

- Provides additional complementary cancer specific information
- Provides a cancer clinician-researcher viewpoint for data organization and presentation
- Allows for collection of research parameters for approved research studies
- Supports computation of custom derived variables
- Allows for side-by-side comparison and mining of clinical and research data

Researchers can create and run reports through iQ (an ad-hoc query generation tool) in a variety of formats.

CCR Features

EDIT TEST RESULT

TEST DATE: 07/12/2025, 23:56   TEST TYPE: 83   FACILITY

RESULT 1: 3.2   RESULT 2   UNITS: ng/mL

NORMAL LOW VALUE: 0   NORMAL HIGH VALUE: 4

NOTE
DEXT
... with prostate cancer diagnosed on 07/12/2025 after PSA increased to 3.2.

CANCEL   SAVE

LAB TESTS

	TEST DATE ↓	TYPE	VALUE 1	VALUE 2	UNITS	LOW	
1	01/30/2025, 00:00:00	PSA (SERUM)	0		ng/mL	0	
2	02/06/2025, 11:10:00	ALKALINE PHOSPHATASE	45		U/L	38	
3	03/27/2025, 00:02:00	WBC	6.77		K/uL	3.2	
4	04/08/2025, 07:23:00	GLUCOSE, PLASMA OR SERUM	89		mg/dL	64	
5	05/27/2025, 02:00:00	CALCIUM, SERUM OR PLASMA	8.7		mg/dL	8.4	
6	10/14/2025, 05:23:00	CREATININE	0.90		mg/dL	0.72	
7	03/16/2025, 19:44:00	CALCIUM	8.7		mg/dL	8.4	10.2
8	04/24/2025, 09:55:00	HEMOGLOBIN	15.6		g/dL	14.6	17.8
9	05/25/2025, 23:33:00	CREATININE, SERUM OR PLASMA	0.90		mg/dL	0.72	1.25
10	06/08/2025, 07:22:00	PLATELET	166		K/uL	177	406
11	07/12/2025, 06:11:00	PROSTATE SPECIFIC ANTIGEN	3.2		ng/mL	0	4	DEXT ... with prostate cancer diagnosed on 07/12/2025 ...
12	08/09/2025, 09:22:00	PSA (SERUM)	3.0		ng/mL	0	4	Pre-treatment PSA

Extracting discrete data values via NLP

Cancer Group-specific Data Access – Principal investigators define cancer groups containing their cohorts of interest. They control access to all data and can decide to share data with other cancer groups.

Shared Patient Data – Supports shared access to electronic health record data for the cancer groups via nightly import of data from the EDW.

Searching – Allows searching by patient, diagnosis, staging, tumor, medical event, study, and pathology report attributes. The iQ application provides extraction of integrated datasets including data from CCR, bio-specimen tracking, molecular data, and HCI tumor registry data.

Basic Data Collection – Supported data elements include diagnosis, staging, tumor, study enrollments, vital status, tests/results, and specimens (through integration with CORE).

Medical Event Model – Provides extensible user-defined data per cancer group, including patient, research studies, tumors, pathology, and medical events such as biopsies, surgeries, follow-ups, treatments, outcomes, complications, and more.

Data Extracted by Natural Language Processing (NLP) – Integrates with customized data extraction from notes and reports (pathology, radiology, etc.) using the NLP application and home-grown software for integrating it with CCR.
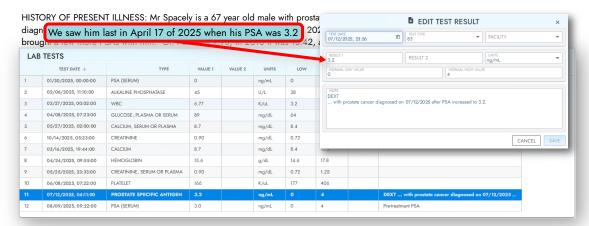

REPORTING

Researchers can report on all collected and linked data through iQ, including custom medical events and attributes.

SECURITY

CCR keeps research data secure and HIPAA compliant. As a patient- and disease-centric application, CCR gives cancer groups full control over their data.

Services Available

Training
Technical Support
Application Configuration
Application Development
Query and Report Generation
Natural Language Processing

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2000 Circle of Hope Drive, Salt Lake City, UT 84112   https://risr.hci.utah.edu