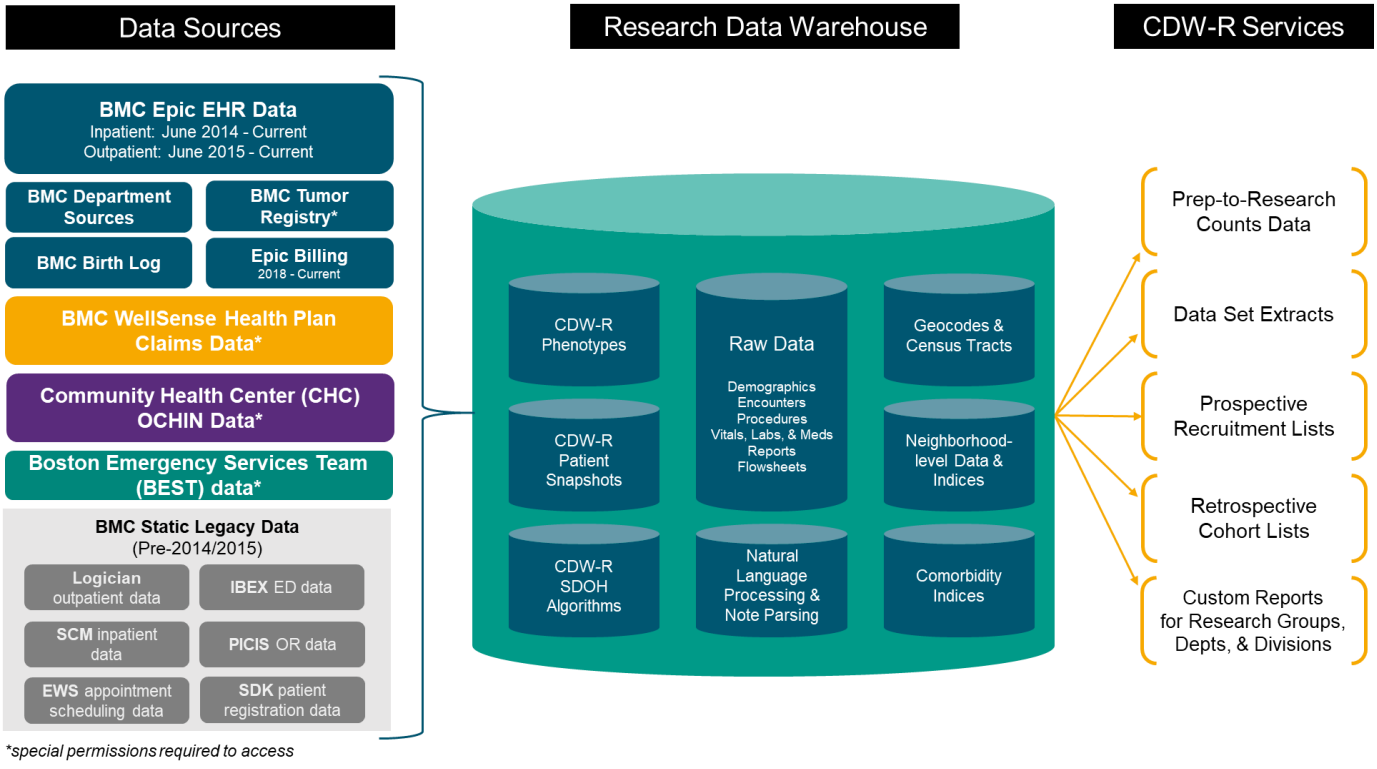
Clinical Data Warehouse for Research (CDW-R) Tip Sheet

About the BMC CDW-R

The BMC CDW-R is a **centralized resource to access patient-level and population-level data for research.**

- CDW-R analysts **extract and link data** from various health system data streams:
  - BMC Epic electronic health record (EHR) data.
  - Historical data from legacy clinical systems.
  - Community Health Center (CHC) OCHIN EHR data.
  - BMC WellSense Health Plan claims data.
- CDW-R develops **algorithms and phenotypes for identifying patients, characteristics, and conditions** – improving data capture and consistency.
- CDW-R collaborates with Departments, Divisions, and research groups to **increase research infrastructure** and **better leverage data for research**.

More information is available on https://www.bmc.org/research/clinical-data-warehouse-cdw.



special permissions required to access

CDW-R Services

The CDW-R provides a range of services, from aggregate counts to full data extracts to collaborating with larger groups on the BUMC campus to increase their research data infrastructure.

Simple Counts

Provide aggregate counts for study planning, feasibility analysis, and grant/proposal submission.
(free service)

Recruitment/Cohort Lists

MRN, DOB, name, contact information, demographics, upcoming appointments, cohort inclusion criteria.
(as permitted by IRB protocol)

Data Extracts

Data extracted from the data warehouse for your study cohort, organized for data management and provided in excel files.
(mitigating need for manual chart review)

Custom Reports

Recurring data extractions, automatic prospective reports, and patient snapshots.

Linked Data Extracts

Data extracted from the data warehouse linked to community health center (CHC) data, claims data, and other external data.

Department- or Division-wide Efforts

Describe specific patient populations, establish efficient recruitment strategies, and increase infrastructure to better leverage data for research.

CDW-R analysts also provide services such as:

- Applying study cohort inclusion and exclusion criteria to efficiently conduct medical record pre-screens that identify patients eligible for recruitment – potentially mitigating need for manual chart review.
- Assigning study IDs.
- Creating and managing master codes, with or without providing access to the study team.
- Providing subsequent data extracts for the same cohort (whether study team has a master code or not).
- Developing recurring and automated data pulls.
- Consulting with study teams to identify robust data to answer your research question, develop budgets, complete your study IRB protocol, and/or determine if manual chart review would be required for your study.
- Estimating the cost of a data request to assist the study team with grant proposal submission and budgeting.

Current wait times are updated on our website.

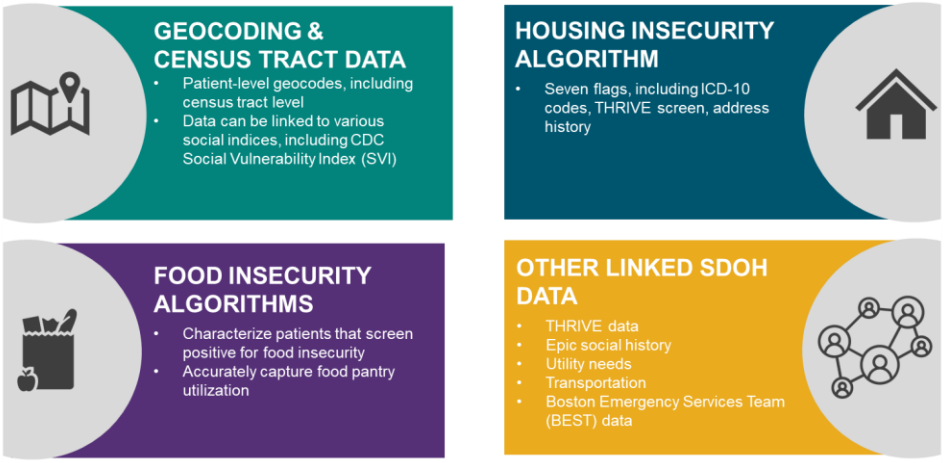
CDW-R Fee Structure: FY24 Rates

The CDW-R operates as a BMC research core facility/shared service. There is an hourly fee for data extraction services beyond simple counts. More information on billing and invoicing as well as internal funding mechanisms is available on our website.

Not-for-Profit, Internal Rate: $100 / hr	Industry and/or External Account Rate: $175 / hr
Projects funded by **government, non-profit funders, or internal** BMC/BU funds -AND- the funding account is at **BMC, BU, or a Boston HealthNet CHC**. *Base hourly fee*	Projects funded by **for-profit funders** -OR- funded from account that is at an **external institution** (not BU, BMC, or Boston HealthNet CHC). *Base hourly fee + F&A rate*

Health-Related Social Needs (HRSN) and Social Determinants of Health (SDOH) Data

The CDW-R uses relevant data from Epic EHR and other data systems to support HRSN, SDOH, and health equity research – developing algorithms and phenotypes for identifying patients, characteristics, and conditions.



Data that Require Special Approvals to Access

BMC/BUMC researchers may access data from BMC Epic electronic health record (EHR) and historical data from BMC legacy systems. In addition, researchers may access data from other data streams with the appropriate approvals:

Community Health Center (CHC) Data*	• Permission from each Boston HealthNet CHC is required to access CHC data • Boston HealthNet has a centralized Project Request Form to request access: https://www.bu.edu/ctsi/community-engagement/boston-healthnet-bhn/ **The CDW-R has access to data from the following CHCs: Boston Health Care for the Homeless Program, Codman Square, DotHouse, Greater Roslindale, Mattapan Community, South Boston, South End, Upham's Corner.*
BMC WellSense Health Plan Claims Data	• Permission from the State (MassHealth) is legally required for all research on a project-by-project basis • Requires BMC WellSense Health Plan legal team involvement • Email cdw@bmc.org with questions
Part 2 (SUD Clinic) Data‡	• 42 CFR Part 2 regulations ('Part 2') protect data from federally-assisted programs for the treatment of substance use disorders (SUD). • Contact the BMC/BUMC IRB with questions *‡BMC federally-assisted SUD programs subject to Part 2: Project ASSERT, Project RESPECT, CATALYST Clinic. FAST PATH. Faster Paths, OBAT, Dept of Psychiatry Buprenorphine Program (Dowling 8), Project TRUST, SOFAR Clinic, Addiction Consult Service, Addiction Psychiatry Treatment Program, ABOVE Program, Brockton Behavioral Health Center Clinical Stabilization Services, Roundhouse Clinic*
MIIS Vaccine Data	• Special permission is required if data are extracted from the Massachusetts Immunization Information System (MIIS), which contains data on vaccines administered outside of BMC • Researchers may access data on vaccines given at BMC without special permission • Email cdw@bmc.org with questions

Note: Per Hospital System contracts, Care Everywhere data cannot be used for research purposes. That is, researchers cannot access medical record data/components from other institutions by using Care Everywhere. These data are not in the BMC clinical data warehouse, and research teams may not capture Care Everywhere data as part of manual chart review for research purposes.

Requesting Research Data

The CDW-R website step-by-step instructions for the research data request process.

In addition, the website provides guidance for students, residents, and fellows conducting research and additional BMC/BUMC research supports available for study design and IRB application completion; data management, programming, and analysis; and technology and equipment needs.

Research teams should avoid common issues that cause data extraction delays by:

- Ensuring alignment between the CDW-R data request and the study IRB protocol.
    - Common issues include: Dates do not align; specific PHI not requested in IRB protocol/INSPIR application (e.g., MRN, DOB); Part II (SUD clinic) data not reflected on study protocol.
    - If there is a HIPAA waiver, ensure the HIPAA section describes the full cohort the study team will receive data about before/without authorization.
    - Discrepancies between the data request and IRB must be resolved – either by adjusting the data request to be compliant with the IRB or by submitting and IRB amendment – before CDW-R can start your data extraction.
- Include all information requested in CDW-R data request form.
    - List all individual data fields that you need the CDW-R to extract and provide to you.
    - Define all data, provide all ICD-10s, CPTs, procedure names, report names, order/referral names, labs, and medication names. Avoid acronyms.
- Engage the CDW-R early in your study process.
    - We will do our best to work within study time frames but this may not always be possible given number/complexity of requests in our work queue.

Research Team Checklist: Steps Required to Finalize a Research Data Request

Required Step		Notes
☐	Submit a CDW-R Data Request Form.	Be sure to include all information requested in the form. Questions? Review the CDW-R website or email cdw@bmc.org.
☐	Confirm IRB approval/determination	While a data request can be submitted in advance of IRB approval/determination, the CDW-R will not receive automatic notifications of IRB status. As such, we rely on research teams to alert cdw@bmc.org via when a study receives IRB determination and may move forward.
☐	Confirm any special approvals are complete, if applicable.	See “Data that Require Special Approvals to Access” above.
☐	Respond to any additional information requested by the CDW-R.	During the consultation and data request finalization process, the CDW-R will review all information necessary to conduct the data extraction. This may result in requests for further detail, such as additional clinical context or clarification of requested data elements (e.g., specification of concepts, definitions, codes, locations of data elements in Epic, etc.).
☐	Provide an account number that will be used to pay for CDW-R services.	It is the research team’s responsibility to secure the account information and supply it to the CDW-R. Provide the full BMC Cost Center string as it appears in Infor (alternatively, if the funds are coming from a BU account, provide the BU IO number). If an account number was not included in the data request form, the research team must email the account number, funder name, and financial analyst/administrator’s email address to cdw@bmc.org before the data request can move forward. The CDW-R team is available to provide a quote for services.