

# VDW USER REQUEST GUIDE

## 1. PURPOSE

The purpose of this document is to provide an overview of the data available in the Virtual Data Warehouse (VDW) for research purposes at Hennepin Healthcare (HH), the request process, cost, and requirements of data use.

Hennepin Healthcare and the Hennepin Healthcare Research Institute developed a common data model following the Health Care CSRN VDW specifications. Hennepin Healthcare developed the VDW in order to facilitate collaborative research studies with external organizations. Even though Hennepin Healthcare is not a member of the HCSRN network, Hennepin Healthcare can collaborate with any organization that uses the HCSRN VDW CDM, PCORnet or Sentinel CDM.

## 2. ELIGIBLE INVESTIGATORS

Hennepin Healthcare faculty, trainees, or staff who have an hcmcd.org or hhri.org email address are eligible to submit a data request. External (non-Hennepin Healthcare) collaborators may participate in research projects using the VDW but the project must include a Hennepin Healthcare co-investigator and the HH co-investigator must be the one to initiate the request. See Section 6. Data Access and Documentation for more information on how HH data are shared with collaborators.

## 3. DATA AVAILABLE

The VDW contains information from Hennepin Healthcare EPIC medical chart and billing data. The VDW is based on a common data model. The common data model defines standard tables and variables so investigators, both internal and external, have a basic understanding of the data and can easily share programming code across sites for collaborative studies. The VDW is based on the common data model developed by the Health Care Systems Research Network (HCSRN)<sup>1</sup>. Also, the HCSRN common data model can easily be adapted to the PCORnet common data model.

The Hennepin Healthcare VDW includes twelve domains. They include: Death, Demographics, Diagnosis, Encounters, Facility, Lab Results, Languages, Med Orders, Procedures, Providers, Social History, and Vital Signs. See the “VDW Data Dictionary” for a description of each table, the variables contained in each table, variable formats, and variable code tables.

### 3.1 POPULATION

The VDW includes all patients who have been seen at a HH location. This includes Hennepin Healthcare (service area 2) and MVNA (service area 21). The VDW excludes patients who have opted-out of research (research and

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<sup>1</sup> [HCSRN Virtual Data Warehouse](#) (Health Care Systems Research Network, 2019)

clinical trials) as well as jail and ambulance only encounters. The VDW includes over 770,000 patients and 11 million encounters.

### 3.2 YEARS AVAILABLE

Data are available from February 1, 2007-the most current week. The VDW is refreshed weekly on Friday afternoon.

### 3.3 SENSITIVE VARIABLES AND IDENTIFIERS

The VDW data tables include personally identifying information as well as personal health information (e.g. Patient id, dates, and patient zip code) in order to accommodate a variety of research requests. Hennepin Healthcare investigators storing data on a Hennepin Healthcare server may receive VDW variables in the original identifiable format, if IRB approved. Investigators storing data outside of Hennepin Healthcare will receive a de-identified data set, according to the HIPAA Safe Harbor method of de-identification.<sup>2</sup>

If the investigator (internal or external) requires a unique key in order to link VDW tables together, ACE staff will strip the VDW patient identifier (MRN) and encounter identifier (ENC\_ID) and replace each with a randomly generated identifier. ACE staff will retain the crosswalk until the end of the study in case the investigator needs the data rerun. Key crosswalks will be stored on secure servers only available to ACE analysts and will not be available to investigators.

See Appendix A for a table listing all of the sensitive variables, the table(s) they are found in, the original variable format, and the alteration of the variable, if provided as a de-identified dataset.

## 4. TYPE OF REQUESTS AND COST

### 4.1 PREPATORY FOR RESEARCH REQUESTS

Requests for summary level statistics for the purpose of preparation for research are free. An investigator may submit a request to ACE through ServiceNow (See Appendix B for detailed ServiceNow Instructions). An ACE Analyst will work with the Investigator to provide the summary level statistics needed.

- Go to ServiceNow Service Catalog
- Select “Reports & Analytics”
- Select “Request a New Report or Project”
- Respond to the questions and submit the request (click the “order now” button)

If the investigator does not have access to ServiceNow, a request can be submitted via email to [ACE@hcmcd.org](mailto:ACE@hcmcd.org) with “VDW Prep for Research” in the Subject line.

### 4.2 RESEARCH REQUESTS

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<sup>2</sup> [De-identification Standard described](#) (Guidance Regarding Methods for De-identification of Protected Health Information in Accordance with the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule, 2019)

Research requests are governed by [HIPAA Privacy Rule 45 CFR 164.501](#) and the [Minnesota Health Records Act](#). The HIPAA Privacy Rule defines research as “a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge.” Investigators conducting research with Hennepin Healthcare data will need to obtain Institutional Review Board (IRB) approval prior to submitting a request to obtain VDW data.

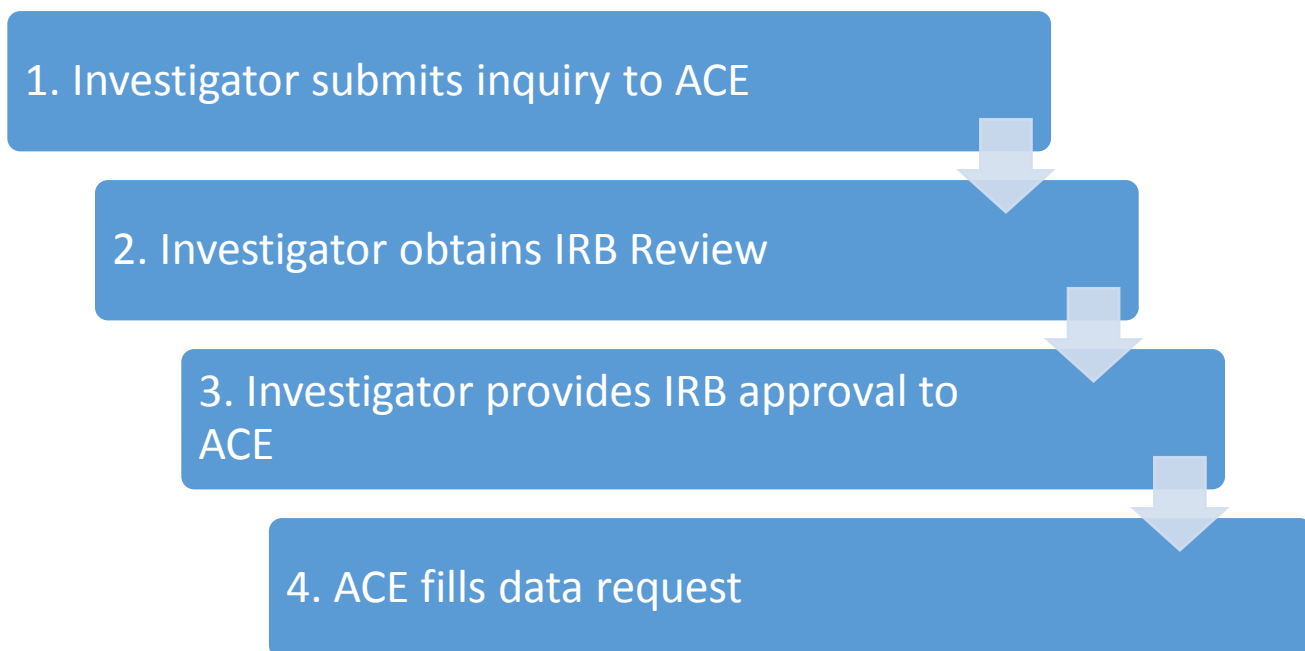
As mentioned previously, all research requests for HH data must include a Hennepin Healthcare investigator. If VDW project data will be stored on a HH server, the investigator may request any of the tables and variables available in the VDW that are necessary for the project and within scope of the data approved by the IRB. If the project involves collaboration with an external organization or data will be stored on a non-HH server, the ACE staff will provide a de-identified dataset as defined in Appendix A.

Investigators may request VDW data based on any of the populated variables in the VDW. Review the Data Documentation for a list of tables (aka domains) and variables that may be searched. Common search parameters include searching for patients of encounters with certain diagnosis or procedure codes.

#### 4.3 COST

ACE charges an hourly rate of \$120/hour to cover the staff time to provide the data necessary for the project and maintain the VDW. Investigators may request a cost estimate when submitting a prep for research request as described in section 4.1. ACE will supply an estimate based on an expected range of hours required to complete the request (e.g. 1-4 hours, 4-8 hours, 8-12 hours). Resident/education based projects and/or non-sponsored projects may request a fee waiver which can be made during the initial consultation with ACE.

### 5. DATA REQUEST PROCESS



## 5.1 INVESTIGATOR SUBMITS INQUIRY

We recommend that investigators submit an inquiry to ACE to determine study feasibility and potential cohort size prior to submitting a funding proposal. However, the investigator may submit the inquiry at any point from pre-funding to post-award.

See 4.1 [Prep for Research](#) section for details on how to submit the inquiry.

## 5.2 INVESTIGATOR OBTAINS IRB APPROVAL

Once the investigator and ACE have determined that the request can be filled using the VDW, the investigator should obtain IRB approval for the study. Identifiable data that includes patient identifiers or other identifying variables, such as actual dates, requires a more lengthy IRB review process. The use of de-identified data may reduce the IRB review time required. If the investigator is unsure if de-identified data could be used, please email the question to [ACE@hcmcd.org](mailto:ACE@hcmcd.org) and include “VDW Data” in the subject line.

## 5.3 INVESTIGATOR PROVIDES IRB APPROVAL TO ACE

Once the IRB has approved the project, the investigator should submit the IRB approval or exemption letter to ACE through the ServiceNow ticket. An ACE Analyst will contact the investigator to confirm the requirements of the request.

## 5.4 ACE FILLS DATA REQUEST

Once the ACE Analyst has confirmed the requirements of the data request, the ACE Analyst will extract the data and provide to the investigator.

## 6. DATA ACCESS & DOCUMENTATION

The ACE Analyst will create the data file per the investigator’s specifications. If the data will reside internally and are de-identified, the ACE Analyst will email the file and request documents. If the data file exceeds 500 patients or contains identifiable data, then the ACE Analyst will place the file in a secure folder. Instructions for data retrieval will be emailed to the investigator. The investigator will have access to the secure folder for 2-weeks in order to download the files.

If the data are to be stored outside of Hennepin Healthcare server, the ACE Analyst will arrange data access through a secure file transfer protocol.

Within the secure folder, the following files will appear. The list of files and description appear below.

Document	Description
[TASK#]_[file name].csv	Data file
[TASK#]_Request_specifications	Document will include investigator and project information, the inclusion/exclusion criteria, the de-identification method used, and the final file layout.

## 7. TECHNICAL SUPPORT AVAILABLE

At any point in the process, an HH investigator or member of the study team may contact ACE staff for assistance. ACE staff can assist with study feasibility, sample size calculations, data loading issues, and data interpretation to name a few.

If the question relates to a specific study, respond to the ServiceNow ticket to contact ACE staff. Otherwise, email [ACE@hcmcd.org](mailto:ACE@hcmcd.org) with the question.

## 8. DATA RETENTION

Following the NIH guidelines for records retention, the VDW data should be retained for a period of three years from the date the study is closed-out with the IRB for internal investigators and three years from the end date of the Data Release Agreement for external investigators. After the retention period has expired, the investigator is responsible for destroying the data, including all raw data and any analytical files.

## 9. PUBLICATION OF FINDINGS

Any publications or presentations from the VDW should include the following citation.

“This research was supported by the National Institutes of Health’s National Center for Advancing Translational Sciences, grant UL1TR002494. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health’s National Center for Advancing Translational Sciences.”

We would love to hear about your research. Please email a brief synopsis of your research to [ACE@hcmcd.org](mailto:ACE@hcmcd.org). Include a short description that includes key points, the research question, the findings, and meaning.

## APPENDIX A: VDW SENSITIVE VARIABLES, TABLES, AND FORMATS

Variable Name	Table(s)	Original Format	De-identified Format
Medical Record Number	Demographics, Language, Encounter, Diagnosis, Procedure, Med Order, Lab Results, Vital Status, Social History	Pat_id (number)	Randomly generate a patient id (NOT based on Pat_id or MRN)
Patient birth date	Demographics	MM/DD/YYYY	Birth Year, if 89 or >, then present as >=89
Encounter id	Encounter, Diagnosis, Procedure, Vitals, Social History, Med Orders	Enc_id (number)	Randomly generate an encounter id (not based on the true encounter id)
Admit date	Encounter, Diagnosis, Procedure	MM/DD/YYYY	YYYY OR Days to event
Discharge date	Encounter	MM/DD/YYYY	YYYY OR Days to event
Procedure perform date	Procedure	MM/DD/YYYY	YYYY OR Days to event
Order date	Med Order, Lab Results	MM/DD/YYYY	YYYY OR Days to event
Med start date	Med Order	MM/DD/YYYY	YYYY OR Days to event
Med end date	Med Order	MM/DD/YYYY	YYYY OR Days to event
Specimen collection date	Lab Results	MM/DD/YYYY	YYYY OR Days to event
Test result date	Lab Results	MM/DD/YYYY	YYYY OR Days to event
Measure date	Vital Status	MM/DD/YYYY	YYYY OR Days to event
Contact date	Social History	MM/DD/YYYY	YYYY OR Days to event
Birth Control Comment	Social History	Free text	Not supplied
Alcohol Ounces Week	Social History	Free text	Not supplied
Alcohol Comment	Social History	Free text	Not supplied
Illicit Drug Use Freq	Social History	Free text	Not supplied
Illicit Drug Use Comment	Social History	Free text	Not supplied
Tobacco Use Years	Social History	Free text	Not supplied
Tobacco packs day	Social History	Free text	Not supplied

Tobacco smoked/smokeless start date	Social History	MM/DD/YYYY	YYYY OR Days to event
Tobacco smoked/smokeless quit date	Social History	MM/DD/YYYY	YYYY OR Days to event
Tobacco Comment	Social History	Free text	Not supplied
Death Date	Death	MM/DD/YYYY	YYYY OR Days to event

## APPENDIX B: INSTRUCTIONS TO SUBMIT A SERVICENOW TICKET

1. Go to [InfoOnCall](https://infooncall.com) website and click on "ServiceNow".

The screenshot shows the InfoOnCall website interface. At the top, there is a navigation bar with the Hennepin Healthcare logo and the text "InfoOnCall". Below this is a search bar and a "Go" button. A secondary navigation bar contains links for "Clinical", "Departments", "Directories", "Forms", "Policies", "Regulations", "Systems", "Links", "HCMC.org", and "Help".

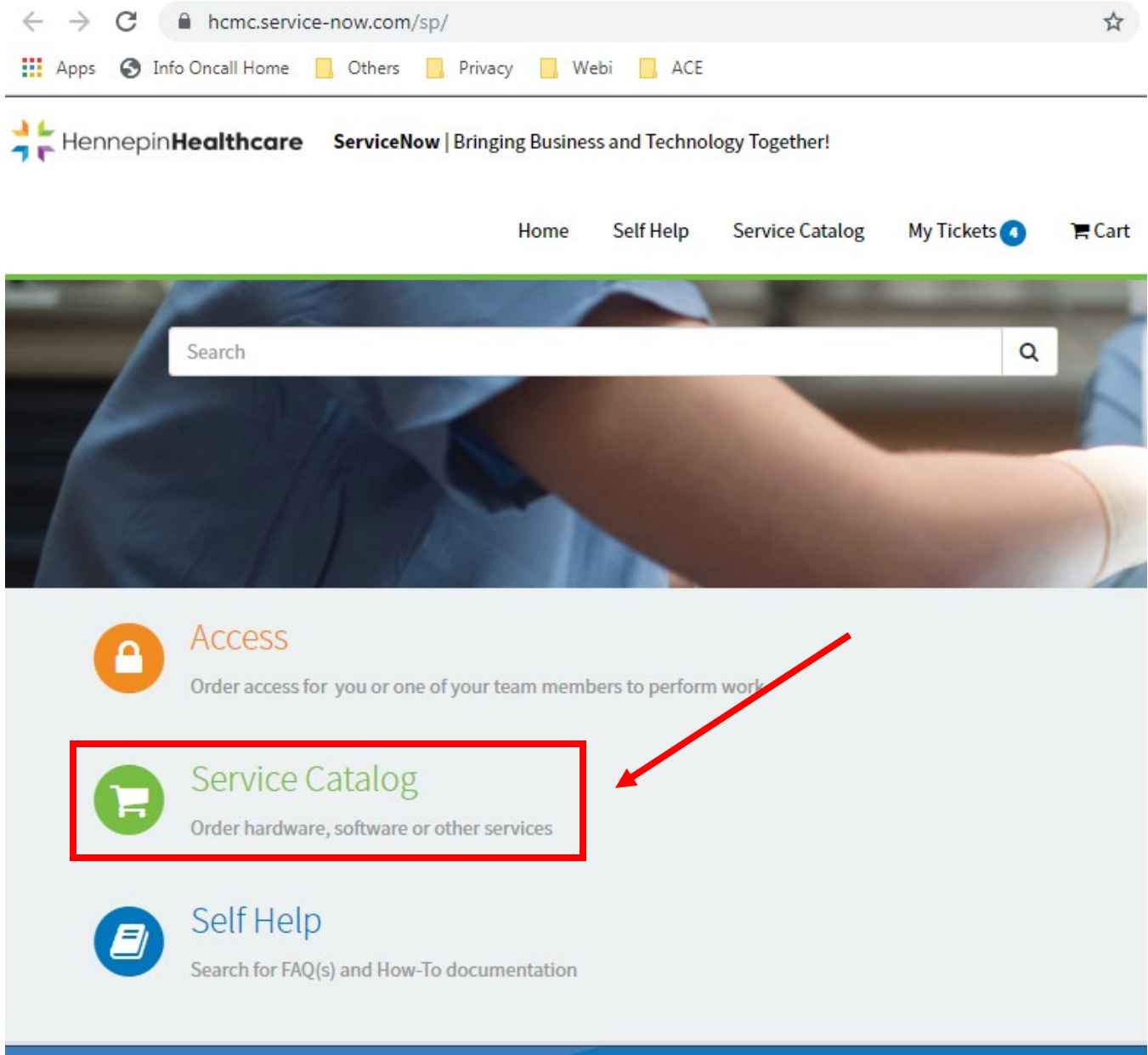
The main content area is titled "Scanner Daily" and features several news items with dates: "8th St. between Portland & Park to close starting 8/15 for reconstruction 2019-08-14", "Give voice to the survey data: Listening sessions start next week 2019-08-14", and "We heard you! See new performance review".

On the right side of the page, there is a vertical menu of links. The "ServiceNow" link is highlighted with a red rectangular box. A red arrow points from the "Scanner Daily" title area towards the "ServiceNow" link. Other links in the menu include "My HR Portal", "Web Clock", "My Learning Center", "Employee/Manager Self-Service", "Minneapolis Weather", and "Inspirations Café Menu".

On the left side, there are additional links such as "Emergency Management", "Request for Emotional Support (CIS)", "Compliance", "Office of the Medical Staff & Provider Privilege Lookup", and "Nursing".



2. Once you arrive at the ServiceNow homepage, select “Service Catalog”.



If you have any trouble arriving at this page when you click on ServiceNow, please call IT services at 612-873-7485.

3. Select "Reports & Analytics" from the Service Catalog


The screenshot displays the 'Service Catalog' interface. At the top, there is a search bar with the text 'Search...' and a magnifying glass icon. Below the search bar, the text 'Browse by Categories' is centered. The main content area is divided into eight categories, each with a title and a brief description:

- Access Requests**: Select this category for Access requests
- Epic Requests**: Select this category for Epic requests
- Hardware/Software**: Select this category for ordering Hardware and Software
- Business Solutions**: Select this category for Project, My Learning Center Requests and more
- Web Requests**: Select this category for SharePoint, Infooncall, HennepinHealthcare.org requests and more
- Communication & Collaboration**: Select this category for communication and collaboration requests
- Reports & Analytics**: Select this category for Reporting and Analytics requests (highlighted with a red box)
- Public Relations / Marketing**: Select this category for Public Relations and Marketing requests

A red arrow points from the 'Communication & Collaboration' category to the 'Reports & Analytics' category.

#### 4. Select “Request a New Report”

### Categories

- Access Requests
-  Epic Requests
- Hardware/Software
- Business Solutions
- Web Requests
- Communication & Collabora...
- Reports & Analytics**
- Public Relations / Marketing

### Reports & Analytics

Select this category for Reporting and Analytics requests

#### Request a New Repor...

Use this form to request development of a new report, assistance with a new project or one-time data requests.

[View Details](#)

#### ServiceNow Report R...

Use this form to request ServiceNow reports.

[View Details](#)

#### Request Enhanceme...

Use this form to request modifications to an existing report. Examples: Additional Data, parameters, groupings.

[View Details](#)

#### Report an Issue with ...

Use this form for existing reports that are no longer working as expected.

[View Details](#)

#### SlicerDicer Support

Use this form to submit SlicerDicer related questions/requests.

[View Details](#)

#### I cannot find the req...

Service Request - I cannot find what I am looking for

[View Details](#)

5. Fill out the form (A) and when complete, click on “Order Now” (B)

HennepinHealthcare ServiceNow | Bringing Business and Technology Together!

Home Self Help Service Catalog My Tickets 4 Cart

Home > Service Catalog > Reports & Analytics > Request a New Report or Project Search

### Request a New Report or Project **A**

Use this form to request development of a new report, assistance with a new project or one-time data requests.

**\* Who is this request being submitted for?**

When searching, type in First name and Last name. Example: John Doe. As you type ServiceNow will start to present you with options as you type. If you aren't sure of a name you are searching for, use an asterisk (\*). Example: \*Doe

Verify the requestor's information below. Please add or correct any information that may need to be changed

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#### Contact Information

Please verify the Requestor's contact information below. Please add or correct any information that may be wrong

**\* Phone Number :**

Email Address :

Once submitted, a member of the ACE team will be in touch within 2 business days.