On the Importance of VA/DoD Resource Sharing in DoD Data

A DAVINCI Presentation

By

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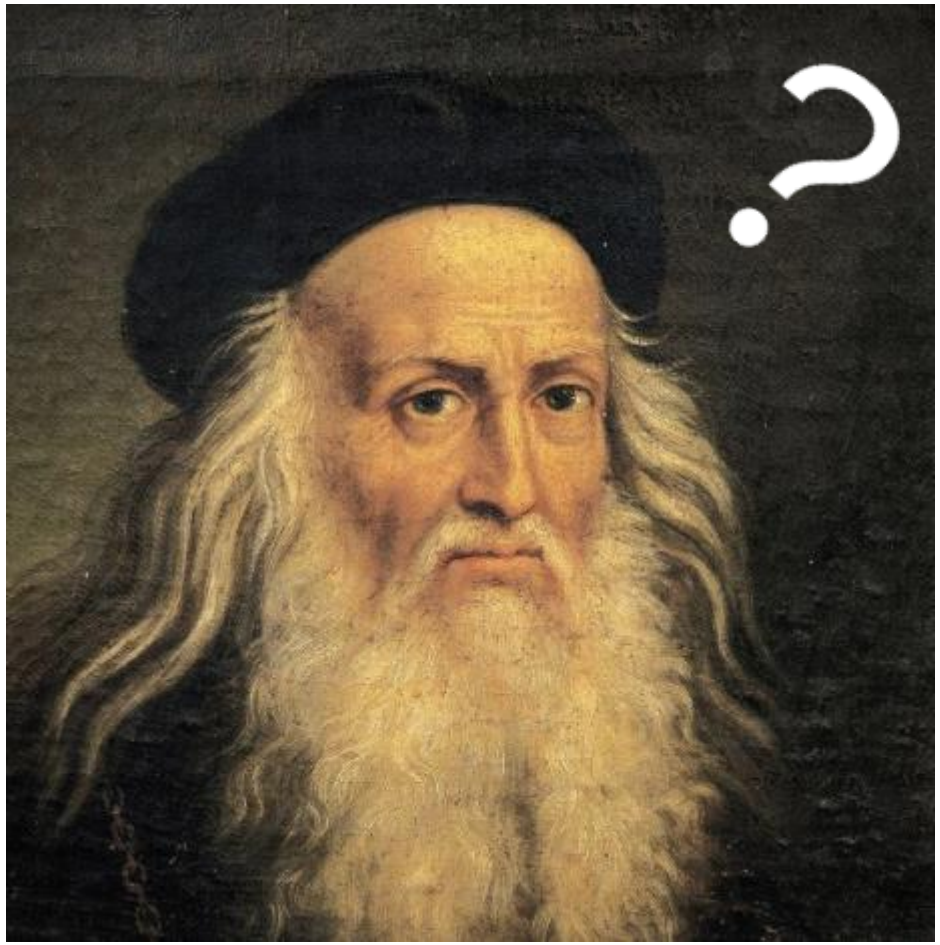
Objectives

- What is DAVINCI?
- Describe DoD/VA Resource Sharing agreements
- Highlight common DoD terminology (e.g., PIP, Patient Category, Beneficiary Category, etc.) that is often used in identifying and stratifying DoD/VA populations.
- Describe how these concepts have been cross walked into OMOP CDM and how they can be identified using OMOP standardized (or other) concepts.

What is DAVINCI?



What is DAVINCI?

- DAVINCI is a data warehouse that combines DoD/MHS and VHA healthcare data
- DAVINCI is also a simplified governance structure and process for researchers and data analysts to access both departments' data
- Officially: Department of Defense (DoD) and Department of Veterans Affairs (VA) Infrastructure for Clinical Intelligence (DAVINCI)

DAVINCI Scope

9.4M Eligible Beneficiaries*

7.9M Unique patients treated in FY2017*

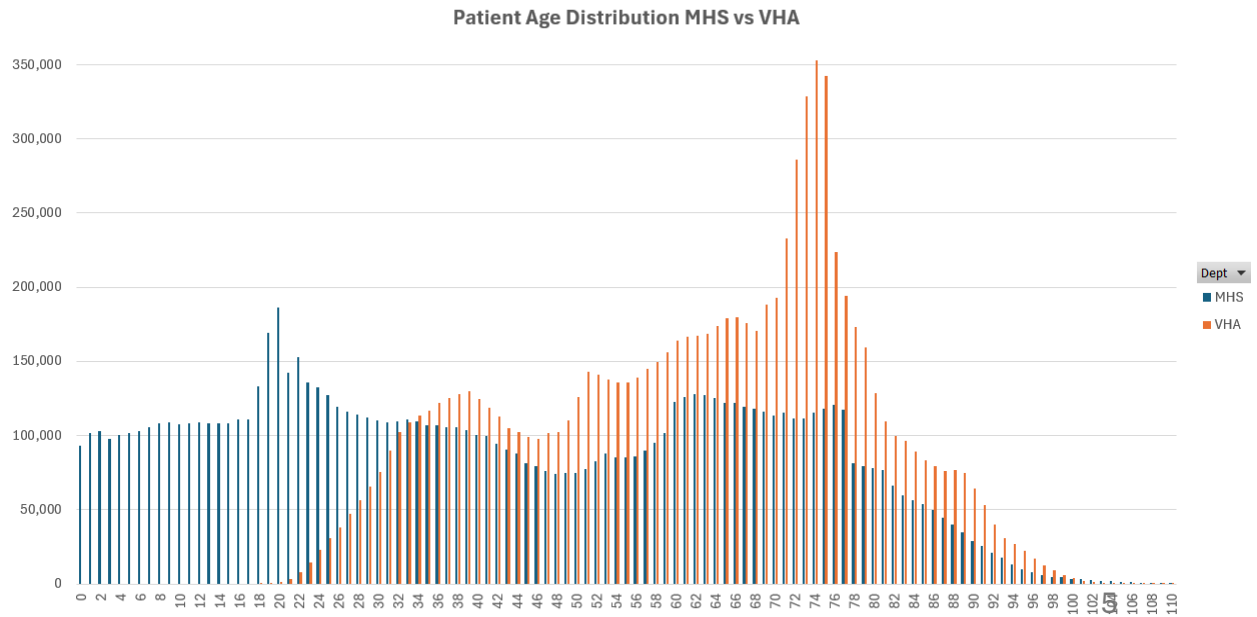
*Source: 'Evaluation of the Tricare Program: Access, Cost, and Quality; Fiscal Year 2018 Report to Congress

9.1M Veteran Enrollees*

6.4M Unique patients treated in FY2017*

**Source: VA Benefits & Health Care Utilization Pocket Card at http://www.va.gov/vetdata/docs/pocketcards/fy2018q4.pdf

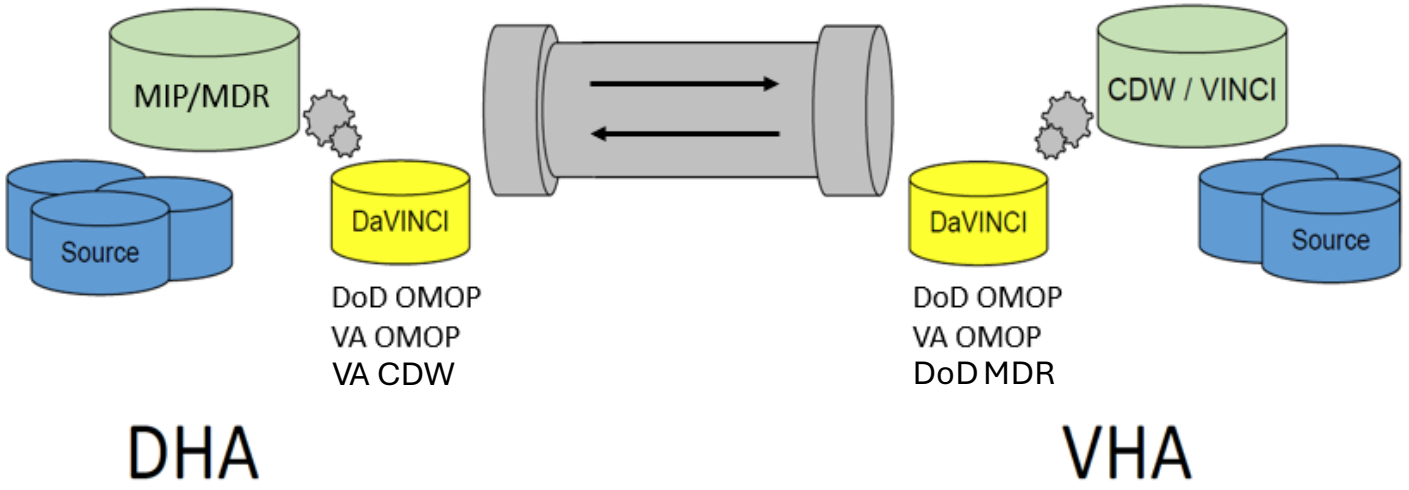
- While the Military Health System (MHS) treats more unique patients on an annual basis, over half of those patients are "family members"
- The DAVINCI scope largely excludes DoD family members



What is DAVINCI?

- Two separate DAVINCI databases exist: one lives in a DoD analytic environment (MIP – Redshift), and the other in the VA analytic environment (VINCI – SQL Server)
- Both contain the same OMOP CDM data tables, as well as the Source tables that each departments' OMOP is modeled from

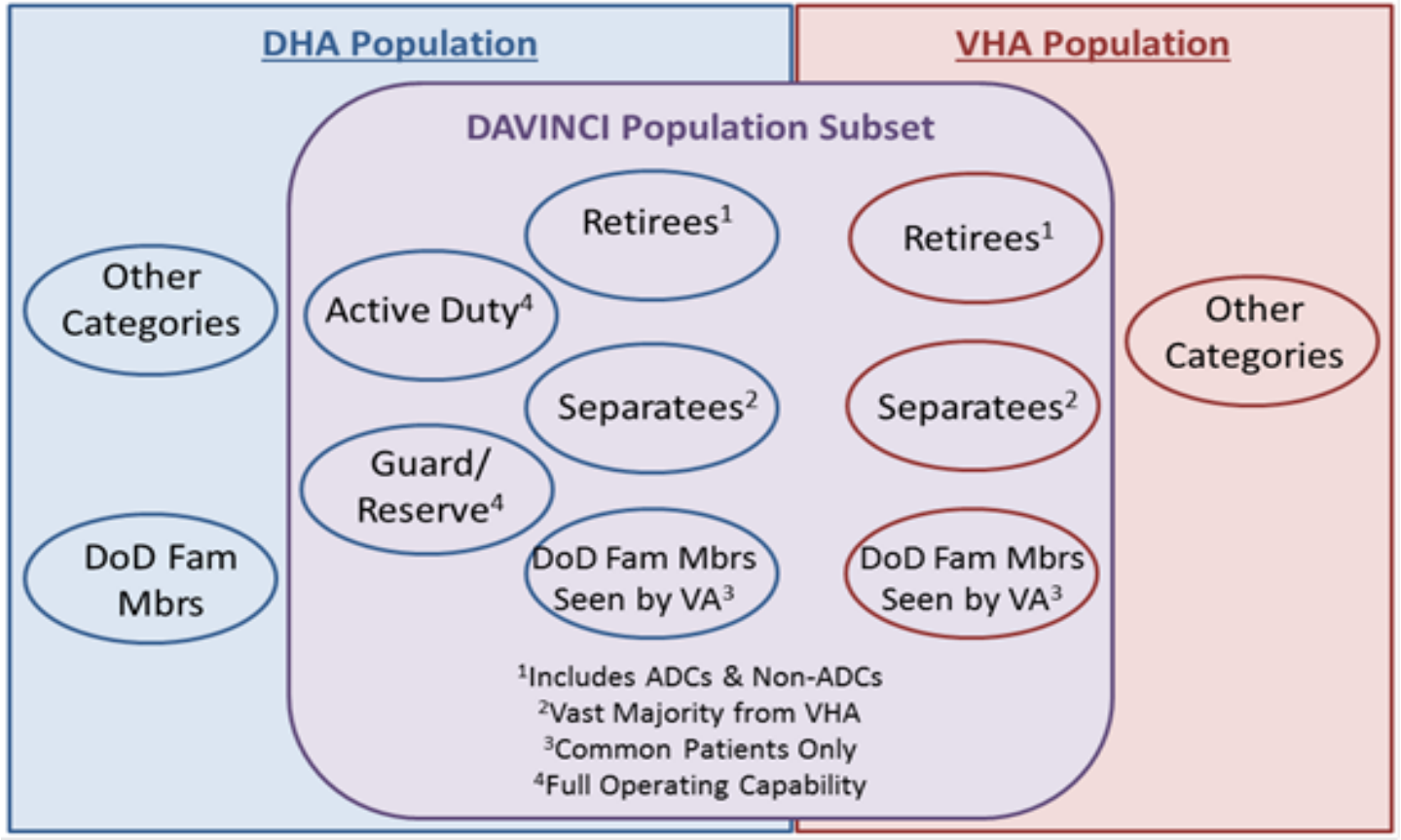
DAVINCI Infrastructure:



What is the purpose of DAVINCI?

- Increase DoD-VA data integration for interagency collaboration and resource sharing
- Implement and operate a collaborative governance process for interagency operation & research collaboration
- Enable researchers to access DoD EHR (legacy and Cerner/Oracle), TRICARE claims, and VA EHR (legacy and Cerner/Oracle) all in one system
- Identify technical solutions for each agency to access & use data
  - Common Logical Data Model (**OMOP**)
  - Data mapping efforts to provide context for semantic interoperability and standardization

DAVINCI Cohort



DAVINCI creates a consolidated view of healthcare for Service women and men, Veterans, and other eligible patients receiving care from DoD or VA

Totals by "current" status:

- Active Duty: 1.4M
- Guard / Reserve: 380k
- Retirees: 2.2M
- DoD-only Separatees: 2M
- Veterans: 9.2M
- Deceased: 8.4M

- The DoD OMOP Person table includes the entire DAVINCI cohort, including people identified in the MTF data
- Veterans can be seen at the MTFs even if they are not MHS-eligible
- "DoD Family Members Seen by VA" can only be identified by using both data systems

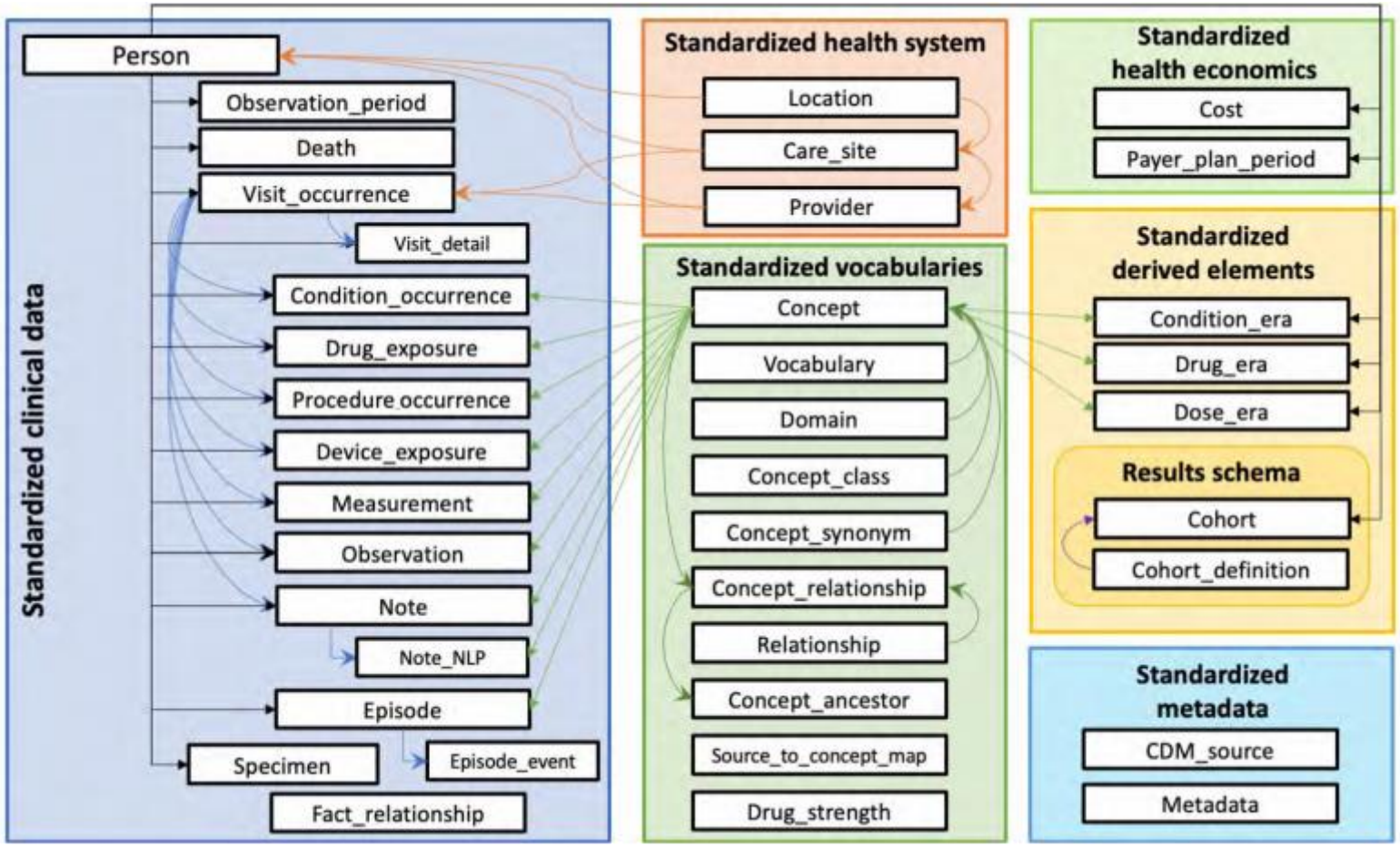
What is the OMOP Common Data Model (CDM)?

source data

extracted, transformed, derived data

national terminologies

best practices



DaVINCI VA & DoD OMOP Tables

Category	OMOP Table Name	VA OMOP	DoD OMOP
Clinical	CONDITION_OCCURRENCE	3,379,540,042	2,391,509,666
Clinical	DEATH	10,816,443	8,064,836
Clinical	DEVICE_EXPOSURE	262,307,924	136,492,282
Clinical	DRUG_EXPOSURE	7,031,141,405	1,625,927,755
Clinical	FACT_RELATIONSHIP	11,476,252	2,216,956,954
Clinical	MEASUREMENT	20,018,341,479	2,618,569,726
Clinical	NOTE	0	49,873,197
Clinical	OBSERVATION	1,251,843,930	2,248,248,304
Clinical	OBSERVATION_PERIOD	17,620,974	10,143,192
Clinical	PERSON	26,568,156	27,183,324
Clinical	PROCEDURE_OCCURRENCE	3,211,481,795	2,216,469,490
Clinical	SPECIMEN	11,649,851,549	219,781,311
Clinical	VISIT_OCCURRENCE	4,251,754,175	1,270,989,707
Health System	CARE_SITE	1,924,313	5,193,898
Health System	LOCATION	23,384,654	948,990
Health System	PROVIDER	4,870,437	8,443,545
	Total	**51,152,923,528**	**15,054,796,177**

Background

- Active-Duty Service Members (ADSMs) can retire with full DoD medical benefits after 20 years of Service, or through a medical retirement.
- Healthcare is free for retirees at Military Treatment Facilities (MTF) unless the retiree is referred for care by the VA.
  - When care is referred by the VA, the VA is billed for the care.
- Retirees can also enroll in an HMO or a fee for service program that covers private sector care.

- When an ADSM separates w/o retirement benefits, the former member can generally only receive free care at an MTF for line of duty injuries.
- VA can refer these separatees to MTFs and the VA will generally be billed for the care.
- This group cannot enroll in any TRICARE Programs.

Background

- When VA patients are seen at MTFs, good things can result for both departments.
  - VA must meet access requirements. If VA needs to refer care somewhere to meet those requirements, MTFs are a great choice because the billing rate is discounted off what VA would pay if the patient went to the private sector.
  - DHA must ensure medical readiness for their providers. VA patients have higher complexity than the typical TRICARE patient (young healthy active duty and their families), providing more opportunity for providers to practice key skills needed when they deploy to support military operations.

DOD-VA Resource Program

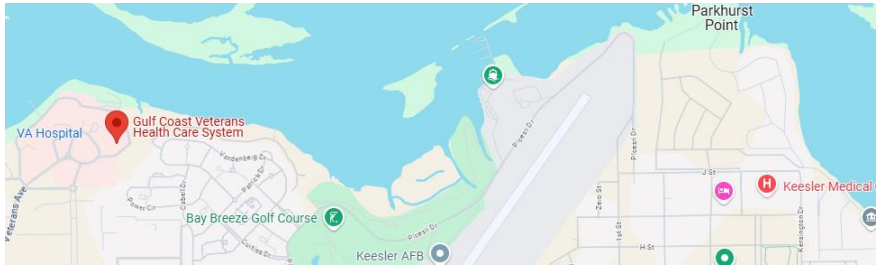
A brief history

DoD-VA Resource Sharing Program

VA/DoD Healthcare Resources Sharing Program

- Program where local DoD and VA facilities enter into agreements to share services, providing benefit to both agencies.
  - Not intended to interfere with regular mission for either facility.
- Very popular for facilities that are co-located or near one another.
- Where there are VA/DoD Resource Sharing agreements, including DoD data in research is especially important.

VA Side DoD Side



3 miles apart

DoD-VA Resource Sharing

Origins and Early Developments

- **1982**: DoD-VA Health Care Resource Sharing Act authorizing partnerships between the DoD and VA to share healthcare resources, such as facilities, personnel, and services.
  - Goal was to improve healthcare delivery while cutting costs by minimizing duplication.

Expansion in the 1990s

- Resource sharing grew, with increased focus on joint ventures to address rising healthcare costs and resource scarcity. These efforts included:
  - Collaborative construction projects for shared facilities.
  - Agreements on pharmacy services and telemedicine initiatives.

Expansion in the 2000s

- DoD/VA Joint Executive Committee (JEC) established to align strategic goals
- VA announces Access Standards creating more need for outsourced care.
- DHA Knowledge, Skills and Abilities program creates standards for readiness credit for providers performing procedures.
- Joint facilities, Lovell Federal Health Care Center in Illinois, showcased the potential for fully integrated care delivery systems.
- National Advanced Payment Pilot implemented to simplify/streamline billing process.

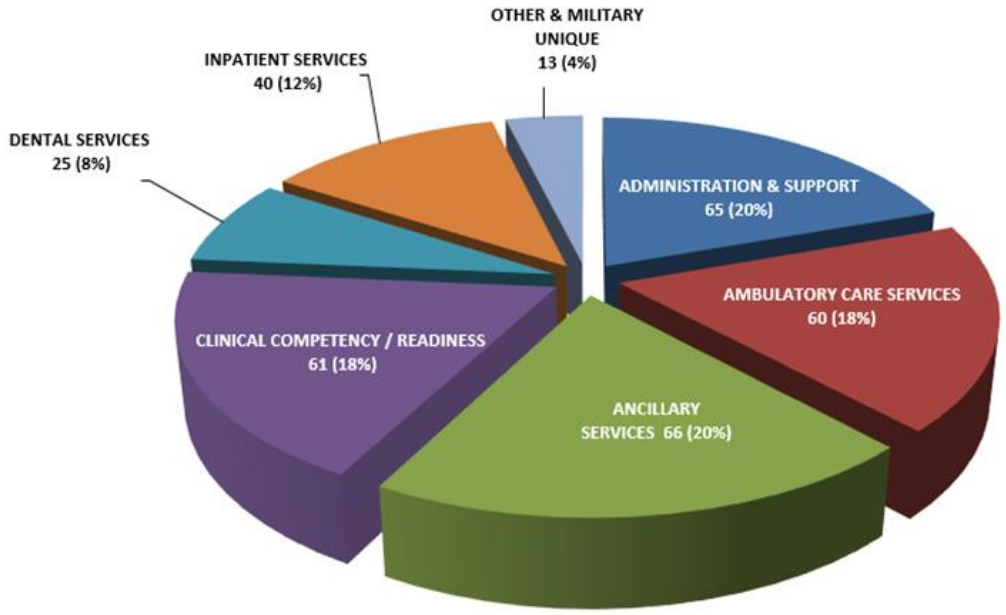
DoD-VA Resource Sharing Agreement

Recent Developments

- Greater focus was placed on modernizing shared systems, including the integration of a single EHR system (Cerner Millennium) for both DoD and VA under the Federal Electronic Health Record Modernization (FEHRM) office.
- DHA has fully implemented the new EHR, called “MHS GENESIS”. The VA is still in the process of rolling the system out.
- MHS GENESIS billing module replaced Advanced Payment Pilot billing mechanism.
- Joint governance structures were created to support interoperability.

Types of DoD-VA Resource Sharing Agreements

Currently, there are 188 active Sharing Agreements offering over 3,100 services between 174 facilities (77 VA and 97 DoD) as of September 2024



Common Types of Services:

Ambulatory Care Services:

- § Cardiology
- § Emergency Medical Care
- § OB/GYN
- § Physical Therapy
- § Psychiatry/Mental Health
- § Surgical Care

Ancillary Services

- § Anatomical Pathology
- § Diagnostic Radiology
- § Pharmacy/Pharmacy Services
- § Pathology
- § Radiology
- § Nuclear Medicine

Administration & Support

- § Ambulatory/Inpatient Administration
- § Housekeeping
- § Lease of Real Property
- § Laundry Service

Competency (Clinical and Non-Clinical) / Readiness Agreements:

- § Education and Training Program Support
- § Readiness Exercises
- § Medical Professional & Training

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Examples of DoD-VA Resource Sharing

- Eglin AFB (Florida Panhandle)
  - VA patients receive inpatient care at the Eglin MTF.
- Tripler (Honolulu)
  - VA and DoD share outpatient and inpatient specialty care services. VA has a behavioral health ward in the Tripler side of the facility and a primary care clinic staffed by the VA.
- Alaska (Anchorage)
  - VA has jointly staff and share inpatient and outpatient care at Joint Base Elmendorf-Richardson. There is also a VA-staffed Health Care Clinic adjacent to the MTF.
- Travis (Sacramento)
  - Largest R/S program. VA has an adjacent health care clinic and VA and DoD jointly staff and share both inpatient and outpatient care.
- Womack (Fayetteville, NC)
  - Share inpatient and outpatient specialty care, surgical services
- Beaumont (El Paso)
  - Share inpatient and outpatient specialty care services, especially surgical

Example of DoD-VA Resource Sharing: VISN 10

Military Treatment Facility	VA Medical Center	VAMC	City	State
Wright-Patterson AFB	Aleda E. Lutz VAMC (Saginaw, MI)	Aleda E. Lutz VAMC	Saginaw	MI
	Battle Creek VA Medical Center (Battle Creek, MI)	Battle Creek VA Medical Center	Battle Creek	MI
	Chalmers P. Wylie Ambulatory Care Center (Columbus, OH)	Chalmers P. Wylie Ambulatory Care Center	Columbus	OH
	Chillicothe VA Medical Center (Chillicothe, OH)	Chillicothe VA Medical Center	Chillicothe	OH
	Cincinnati VA Medical Center (Cincinnati, OH)	Cincinnati VA Medical Center	Cincinnati	OH
	Cincinnati VA Medical Center-Fort Thomas (Ft. Thomas, KY)	Cincinnati VA Medical Center-Fort Thomas	Ft. Thomas	KY
	Dayton VA Medical Center (Dayton, OH)	Dayton VA Medical Center	Dayton	OH
	Fort Wayne VA Medical Center (Fort Wayne, IN)	Fort Wayne VA Medical Center	Fort Wayne	IN
	John D. Dingell VAMC (Detroit, MI)	John D. Dingell VAMC	Detroit	MI
	Louis Stokes Cleveland VA Medical Center (Cleveland, OH)	Louis Stokes Cleveland VA Medical Center	Cleveland	OH
	LTC Charles S. Kettles VA Medical Center (Ann Arbor, MI)	LTC Charles S. Kettles VA Medical Center	Ann Arbor	MI
	Marion VA Medical Center (Marion, IN)	Marion VA Medical Center	Marion	IN
	Richard L. Roudebush VAMC (Indianapolis, IN)	Richard L. Roudebush VAMC	Indianapolis	IN

VISN 10: Shared Services

- Veterans can be seen at the MTF at Wright Patterson AFB for Inpatient, Ambulatory, or Ancillary Services:

Medical Care
Surgical Care
Nuclear Medicine Care
Allergy
Audiology Clinic
Cardiology
Dermatology
Diagnostic Radiology
Endocrinology
Emergency Medical Care
Gastroenterology
General Surgery

Hematology
Infectious Disease
Internal Medicine
Mental Health Clinic
Nephrology
OB/GYN Care
Occupation Therapy Clinic
Occupational Health Clinic
Ophthalmology
Optometry Clinic
Orthopedic Care
Otolaryngology

Pharmacy
Physical Therapy Clinic
Plastic Surgery
Podiatry
Pulmonary Disease Clinic
Rheumatology
Urology
Vascular and Interventional Radiology
Immunizations
Nutrition Management
Radiation Health Program

List of Active Resource Sharing Programs

List of ACTIVE Resource Sharing Agreements - As of SEPTEMBER 2024

188 RSAs with 3131 Shared Services offered between 174 facilities (77 VA and 97 DoD) nationwide

AGREEMENT NUMBE	VISN	VA FACILITY	SERVICE BRANCH CATEGOF	DOD FACILITY	START DAT	END DATE	THP	SHARED SERVICE
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Medical Care
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Internal Medicine
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Cardiology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Coronary Care Unit
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Dermatology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Endocrinology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Gastroenterology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Hematology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Nephrology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Neurology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Oncology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Rheumatology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Infectious Disease
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Allergy
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Medical Care Not Elsewhere Classified
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Surgical Care
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	General Surgery
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Cardiovascular And Thoracic Surgery
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Surgical ICU
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Neurosurgery
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Ophthalmology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Otolaryngology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Plastic Surgery
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Urology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Peripheral Vascular Surgery
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Head and Neck Surgery
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Vascular and Interventional Radiology
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Surgical Care
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Orthopedic Care
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Orthopedics
2021-FRS-0016	10	VISN 10	DHN NCR	NCR Network	3/31/2021	3/31/2026	THP-EAST	Podiatry

Coding of VA-Related Cases at MTFs

Coding of VA-Related Services

- The beneficiary category (bencat) variable is used in DoD to describe a person's DoD benefit at the time care is received.
- This code will show a person's best benefit with DoD, regardless of why a patient presents for care.
- For example, a retiree who is also VA-referred will still show as a retiree in this variable.
- Bencat is an attribute of a person, not an encounter.
- Available in DoD Source tables. Can easily be linked to OMOP records for both Direct Care and Private Sector Care.

Bencat Common	Bencat	Description	Count
1	DA	Family of Active Duty	1,524,928
	DGR	Family of Activated Guard/Reserve	291,864
2	RET	Retiree	2,256,017
3	DR	Family of Retiree	2,668,772
	DS	Survivor	610,685
	IDG	Family of Inactive Guard/Reserve	308,283
	IGR	Inactive Guard/Reserve	201,825
	OTH	Other	33,729
	Z	Uknown	394
4	ACT	Active Duty	1,345,111
	GRD	Activated Guard/Reserve	193,289

Coding of VA-Related Cases at MTFs

- DoD collects information to categorize patients with key variables about eligibility, and to determine if/how care can be billed for.
- Patient Category Code
  - Referred to as “patcat”
  - Collected by registration staff. Only on direct care data.
  - Will eventually be discontinued.
  - When a patient registers using a DoD benefit, this variable will usually be a combination of the sponsor’s Service and the patient’s relationship to the sponsor.
  - If the patient is not using a DoD benefit, the code will indicate information about who can be billed for the care.
  - Available in source tables that represent MTF settings in DaVINCI. Not directly in DaVINCI OMOP but can be linked in via DoD Source data.

Selected Patient Category Codes

Patcat	Description
A11	Army Active Duty
F11	Air Force Active Duty
N11	Navy Active Duty
M11	Marines Active Duty
A41	Army Active Duty Family
A43	Army Retired Family
F41	Air Force Active Duty Family

Patcat	Description
C11	Active Duty Coast Guard
K53	Other Federal Agency, Dept Support
K54	DoD Employee, Remote Area
K57	Occupational Health
K61	**Veterans Administration**
K82	Secretarial Designee
P11	Active Duty Public Health Service

- There are also patcat subcategories
- VA subcategories can be used to identify components of the K61 code, such as: resource sharing, disability connected %, aid and attendance, etc.
- Subcategories are not fully implemented in DAVINCI.

Patient Information Process

- DHA is replacing the patient category code with a new collection of 5 fields, referred to collectively as the “patient information process”, or PIP. Phased implementation.
  - Collection of both patient category and PIP is occurring currently.
  - Patcat will eventually be phased out.
  - Contains the same/similar content as the patcat code but spread across 5 fields.
  - PIP-Patient is a person attribute, much like beneficiary category.
  - PIP-Encounter is an encounter attribute, much like patcat.
  - Neither are yet available in DAVINCI. PIP-Encounter will be available sooner than PIP-Patient.

Patient Information Process

- PIP Plan Name:
  - Identifies the patient's plan for the encounter.
  - Most common values are TRICARE programs.
  - Values for DoD/VA Resource Sharing, Coast Guard, Private Health Insurance Plans, etc.
- PIP Sponsor Branch
- PIP Sponsor Grade & PIP Sponsor Rank
- PIP Sponsor Status:
  - Retired, Active Duty, Disabled American

PIP_PLAN_NAME
DOD-VA SHARING AGREEMENT/ALASKA
DOD-VA SHARING AGREEMENT/JIF
DOD-VA SHARING AGREEMENT/LOCAL
DOD-VA SHARING AGREEMENT/NATIONAL

Data Example

Data for a retiree that registers using TRICARE-PRIME benefit

Bencat	Service	PATCAT	PIP-Plan Name	PIP-Sponsor Branch	PIP Sponsor Rank	PIP-Sponsor Status
RET	A	A43: Army Retiree	TRICARE PRIME	Army	1SG	Retired

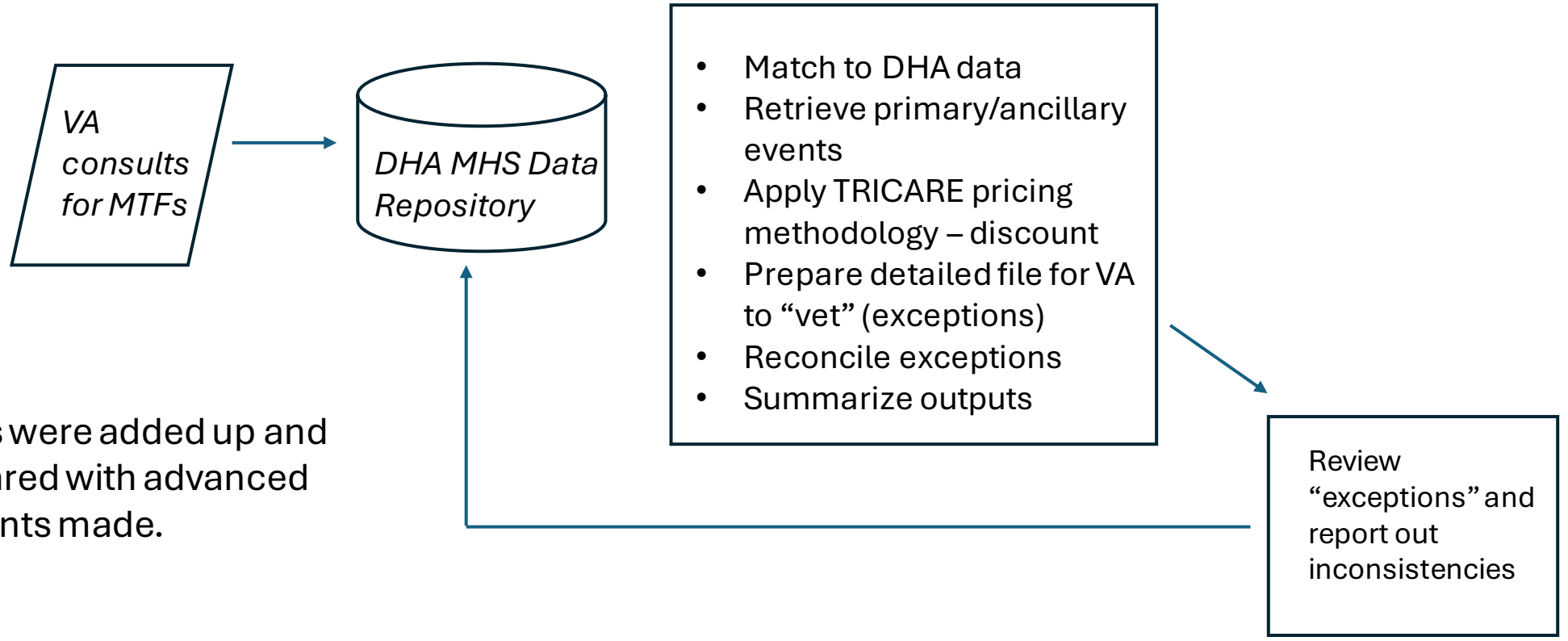
Data for the same retiree who registers with a VA consult

Bencat	Service	PATCAT	PIP-Plan Name	PIP-Sponsor Branch	PIP Sponsor Rank	PIP-Sponsor Status
RET	A	K61: VA Beneficiary	DOD-VA SHARING AGREEMENT, NATIONAL	Army	1SG	Retired

DoD/VA Use Cases – Resource Sharing Billing

Advance Payment Pilot

- In FY18, DHA and VA ran a pilot program to streamline reimbursement for services provided at MTFs using VA consults.



Claims were added up and compared with advanced payments made.

Advanced Payment Program Participating Sites

Region	DoD	VA
Midwest	0095-AF-MC-88th MEDGRP-WRIGHT-PAT	538-CHILLICOTHE
		539-CINCINNATI
		552-DAYTON
		757-COLUMBUS (OH)
NCR	0067-WALTER REED NATL MIL MED CNTR	512-VA MARYLAND HCS
	0123-FT BELVOIR COMMUNITY HOSP-FBCH	613-MARTINSBURG VAMC
	0069-KIMBROUGH AMB CAR CEN-MEADE	688-WASHINGTON DC VAMC
	0120-AF-ASC-633rd MEDGRP JB-LANGLEY	590-HAMPTON VA MEDICAL CENTER
	0385-NHC QUANTICO	
North Carolina	0089-AMC WOMACK-BRAGG	565-FAYETTEVILLE (NC)
		590-HAMPTON VA MEDICAL CENTER
Portsmouth	0124-NMC PORTSMOUTH	590-HAMPTON VA MEDICAL CENTER
Gulf Coast	0038-NHC PENSACOLA	520-BILOXI VAMC
	0042-AF-H-96th MEDGRP-EGLIN	
	0043-AF-C-325th MEDGRP-TYNDALL	
	0073-AF-MC-81st MEDGRP-KEESLER	

As MTFs transitioned to MHS GENESIS, the AP Pilot ended.

VISN 10: Top Outpatient Shared Services FY2022

Treatment DMIS ID	Specialty
0095-AF-MC-88th MEDGRP-WRIGHT-PAT	ORTHOPEDICS
	UROLOGY
	NEUROLOGY
	PAIN MANAGEMENT
	CARDIOLOGY
	RADIOLOGY
	ENT
	GYNECOLOGY
	ONCOLOGY
	PULMONARY
	GENERAL SURGER
	OPHTHALMOLOGY
	DERMATOLOGY
	NEPHROLOGY
	PODIATRY
	EMERGENCY DEPT
	PLASTIC SURGERY
	ENDOCRINOLOGY
	HEMATOLOGY

- List of specialties that were subject to Advanced Payment in FY 2022 at VISN 10.
- The top 3 specialties represented about 60% of the encounters that were captured under the advanced payment program.
- These cases were identified using person identifiers and consult information such as the specialty and dates.
- “Exceptions” were sent for vetting when the specialty and/or dates differ from what was on the consult, or when the patcat did not depict a VA referral.

- The quality of coded patcats, across all participating sites varied from 49% quality to better than 90% quality.

DoD/VA Use Cases – Cohort Scenarios

DAVINCI Cohort Scenarios

Active-Duty

While on Active Duty, most healthcare encounters will appear in the **DoD OMOP Visit Table.**

However, due to DoD-VA **resource sharing**, ADSMs can also be referred to **VA facilities.**

Retiree/Separatee

After **Separation**, if VA eligible, most healthcare encounters will appear in the **VA OMOP Visit Table.**

Some separatees will appear in DoD data due to DoD-VA **resource sharing**

Many **Retirees**, will be **dual eligible**; thus, their care will be split between **DoD** and **VA Visit Tables**.

Power of DaVINCI:
Reduce Censoring for select MHS/VA Beneficiaries

DoD/VA Relationship and Utilization for the CY 2020 DaVINCI Cohort by Beneficiary Status (Hierarchy Applied)

Data Source	Active Duty, Guard, Reserve (ADSM)	Separatee	Military Retiree	Veteran	Deceased	Total
DaVINCI: CY 2020 Population	2,120,216	1,758,860	2,181,272	8,374,770	414,486	14,849,604
DoD (OMOP)						
Continuously Enrolled	1,211,324 (57%)	29,568 (2%)	2,070,495 (95%)	22,290 (<1%)	8,934 (2%)	3,342,611 (23%)
Enrolled (at least 1 month)	1,884,634 (89%)	34,839 (2%)	2,163,578 (99%)	24,413 (<1%)	9,128 (2%)	4,116,592 (28%)
Beneficiaries Utilizing Care:						
Any Visit/Stay	1,693,076 (80%)	156,192 (9%)	1,625,874 (75%)	134,922 (2%)	30,410 (7%)	3,640,474 (25%)
Outpatient	1,683,780 (79%)	152,824 (9%)	1,604,161 (74%)	126,378 (2%)	29,817 (7%)	3,596,960 (24%)
Emergency Room	374,246 (18%)	26,261 (1%)	388,092 (18%)	25,675 (<1%)	16,758 (4%)	831,032 (6%)
Inpatient	65,049 (3%)	8,439 (<1%)	193,299 (9%)	7,688 (<1%)	15,339 (4%)	289,814 (2%)
Ancillary only use	44,724 (2%)	9,153 (<1%)	15,484 (<1%)	19,997 (<1%)	410 (<1%)	89,768 (<1%)
Pharmacy only use	41,507 (2%)	2,609 (<1%)	244,809 (11%)	470,790 (6%)	10,691 (3%)	770,406 (5%)
VA (OMOP)						
Priority Group 1-5	111,539 (5%)	2,885 (<1%)	1,295,845 (59%)	4,611,197 (55%)	226,482 (55%)	6,247,948 (42%)
Beneficiaries Utilizing Care:						
Any Visit/Stay	60,557 (3%)	38 (<1%)	895,992 (41%)	5,071,558 (61%)	217,083 (52%)	6,245,228 (42%)
Outpatient	54,128 (3%)	33 (<1%)	864,575 (40%)	4,885,599 (58%)	199,280 (48%)	6,003,615 (40%)
Emergency Room	6,281 (<1%)	5 (<1%)	96,577 (4%)	809,360 (10%)	44,061 (11%)	956,284 (6%)
Inpatient	633 (<1%)	2 (<1%)	23,971 (1%)	229,091 (3%)	35,439 (9%)	289,136 (2%)
Ancillary only use	2,260 (<1%)	5 (<1%)	193 (<1%)	1,171 (<1%)	158 (<1%)	3,787 (<1%)
Pharmacy only use	290 (<1%)	2 (<1%)	2,324 (<1%)	12,791 (<1%)	3,107 (<1%)	18,514 (<1%)

Abbreviations: CY: calendar year; DoD: Department of Defense; VA: Department of Veterans Affairs; ADSM: Active-Duty Service Member; DaVINCI: Department of Defense and Department of Veterans Affairs Infrastructure for Clinical Intelligence; OMOP: Observational Medical Outcomes Partnership.

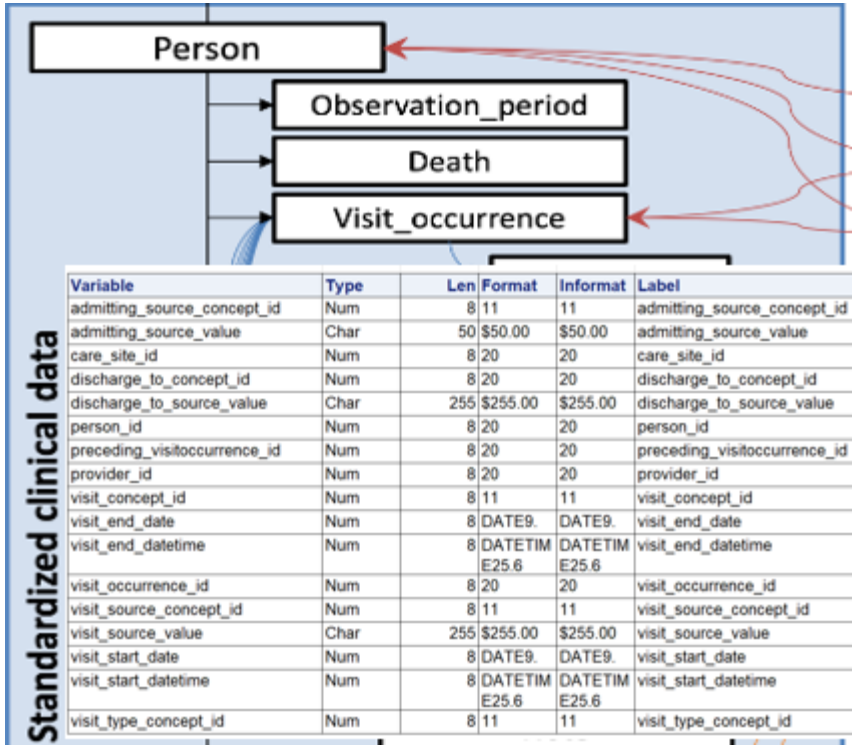
- As expected, the majority of the ADSMs utilized the DoD system, but about 60,557 (3%) were seen in the VA.
  - *Type of Care Censoring:* From the top 50 CPTs, 5 were psychotherapy CPTs, where the VA accounted for 9% (5-17%) of the market share for these procedures in DaVINCI.
- For Retirees, the split in healthcare utilization between the DoD [1,625,874 (75%)] and VA [895,992 (41%)] was much larger.

Source: Pav V, Burns A, Colahan C, Robison B, Kean J, DuVall S. Illustration of Continuous Enrollment and Beneficiary Categorization in DoD and VA Infrastructure for Clinical Intelligence. Mil Med. 2022 Dec 3:usac352. doi: 10.1093/milmed/usac352. Epub ahead of print. PMID: 36461620.

DoD/VA Use Cases – Cohort Scenarios

DoD-VA Resource Sharing: Example of Emergency Department Use

- The OMOP Visit Table does not contain fields to directly identify DoD-VA Resource Sharing as it does not have military specific fields like patient category code.
  - Solution: Need to join to the DoD Source Data



Variable	Type	Len	Format	Informat	Label
admitting_source_concept_id	Num	8	11	11	admitting_source_concept_id
admitting_source_value	Char	50	$50.00	$50.00	admitting_source_value
care_site_id	Num	8	20	20	care_site_id
discharge_to_concept_id	Num	8	20	20	discharge_to_concept_id
discharge_to_source_value	Char	255	$255.00	$255.00	discharge_to_source_value
person_id	Num	8	20	20	person_id
preceding_visitoccurrence_id	Num	8	20	20	preceding_visitoccurrence_id
provider_id	Num	8	20	20	provider_id
visit_concept_id	Num	8	11	11	visit_concept_id
visit_end_date	Num	8	DATE9.	DATE9.	visit_end_date
visit_end_datetime	Num	8	DATETIME25.6	DATETIME25.6	visit_end_datetime
visit_occurrence_id	Num	8	20	20	visit_occurrence_id
visit_source_concept_id	Num	8	11	11	visit_source_concept_id
visit_source_value	Char	255	$255.00	$255.00	visit_source_value
visit_start_date	Num	8	DATE9.	DATE9.	visit_start_date
visit_start_datetime	Num	8	DATETIME25.6	DATETIME25.6	visit_start_datetime
visit_type_concept_id	Num	8	11	11	visit_type_concept_id

DoD-VA Resource Sharing: Example of Emergency Department Use

```
with caper as (
   select tmt_dmisid as dmisid, recordid, meprs3, cy, cm,
   concat(coalesce(patientcat,''),coalesce(patsubcat_code,'')) as patcat,
   bencat, servicedate
from [DoD_Source].DoD.CAPER
where servicedate > '2017-01-01'
)

select cy,
       c2.concept_name as visit_type,
          left(x_source_id_primary, charindex('|',x_source_id_primary) - 1) as dmisid,
       case
          when patcat like 'K61%' then patcat
          else 'Other'
       end as patcat_gr,
       count(*) as num_encs

from [DoD_OMOP].[OMOP].[VISIT_OCCURRENCE] v
left join [DoD_OMOP].[OMOP].[concept] c1 on v.visit_type_concept_id = c1.concept_id
left join [DoD_OMOP].[OMOP].[concept] c2 on v.visit_concept_id = c2.concept_id
inner join caper c on left(x_source_id_primary, charindex('|',x_source_id_primary) - 1) = c.dmisid
        and substring(x_source_id_primary, charindex('|',x_source_id_primary) + 1,
            len(x_source_id_primary) - charindex('|',x_source_id_primary)) = c.recordid

where x_source_table = 'CAPER'
group by cy, c2.concept_name, left(x_source_id_primary, charindex('|',x_source_id_primary) - 1),
         case when patcat like 'K61%' then patcat else 'Other' end
```

Use the "CAPER" DoD source table, which includes legacy and GENESIS professional encounter data, to get Patient Category codes (K61 vs Other)

Merge "CAPER" to the OMOP Visit Occurrence Table to bring in the Patient Category on the "Direct Care" Encounter Records by Source Record ID for each OMOP Visit Type (Inpatient, Outpatient, Outpatient Visit, Emergency Room Visit)

DoD-VA Resource Sharing: Example of Emergency Department Use

- The first "K61" (no subcode) column is increasing from CY 2017 as these are from MHS GENESIS encounters
- The subsequent "K61" (with subcode) columns are decreasing because these are from CHCS/AHLTA encounters

- Overall DoD-VA Resource Sharing makes up a tiny (0.60%) of direct records on the DoD Visit Occurrence Table; however, the distribution is not uniform across sites!

CY	Other	K61	K611	K612	K61(3-9) & K61 (B,C,D,E)	Total
2017	29,655,970	464	41,670	171,821	546	29,870,471
2018	29,199,160	2,183	22,960	188,967	447	29,413,717
2019	29,648,823	6,266	16,245	179,427	406	29,851,167
2020	26,586,083	21,034	11,863	117,847	418	26,737,245
2021	31,382,219	56,998	12,150	105,147	386	31,556,900
2022	28,713,700	96,276	4,660	44,154	168	28,858,958
2023	27,141,435	127,852	1,765	6,361	99	27,277,512
2024	18,655,167	93,051	47	153	10	18,748,428
Total	**220,982,557**	**404,124**	**111,360**	**813,877**	**2,480**	**222,314,398**

DoD-VA Resource Sharing: Example of Emergency Department Use

The table below shows the number of Direct Care Emergency Department Visits with the share of DoD-VA Resource Sharing shown as a percentage (%).

Over CY 2017-2014, DoD Resource Sharing ED Visits accounted for 35% of William Beaumont's ~156k ED Visits while DoD-VA Resource sharing had a much smaller impact at Walter Reed (1%).

DMIS ID Name	2017	2018	2019	2020	2021	2022	2023	2024	Total (2017-2024)
AMC WILLIAM BEAUMONT-FT BLISS	20,634(42%)	20,642(41%)	20,988(42%)	16,452(40%)	18,542(35%)	24,288(25%)	21,241(25%)	13,069(31%)	155,856(35%)
673d MEDGRP JBER-ELMENDORF	10,974(27%)	11,292(24%)	11,077(25%)	7,571(25%)	9,212(15%)	10,782(16%)	10,886(20%)	6,927(20%)	78,721(22%)
60th MEDGRP-TRAVIS	11,093(21%)	11,268(19%)	9,694(19%)	8,611(15%)	8,733(15%)	8,007(21%)	8,465(24%)	5,996(25%)	71,867(20%)
AMC TRIPLER-SHAFTER	23,090(21%)	24,400(20%)	26,125(18%)	20,566(18%)	21,374(14%)	23,988(11%)	23,240(13%)	15,735(14%)	178,518(16%)
ACH BASSETT-WAINWRIGHT	5,733(3%)	6,211(3%)	5,660(5%)	5,137(4%)	7,288(3%)	7,300(8%)	6,021(7%)	4,154(5%)	47,504(5%)
96th MEDGRP-EGLIN	16,227(2%)	16,643(2%)	18,249(2%)	13,906(2%)	17,042(2%)	17,613(1%)	15,904(8%)	9,110(12%)	124,694(3%)
ACH MARTIN-FT MOORE	16,456(4%)	17,097(4%)	17,776(3%)	14,619(3%)	17,855(3%)	14,934(3%)	16,588(3%)	11,754(3%)	127,079(3%)
99th MEDGRP-NELLIS	16,961(2%)	16,383(1%)	17,257(1%)	12,777(2%)	14,913(1%)	17,487(1%)	16,845(1%)	11,489(1%)	124,112(1%)
A T AUGUSTA MED CTR-FT BELVOIR	23,892(1%)	20,665(1%)	17,553(1%)	13,682(1%)	15,320(1%)	13,785(1%)	20,247(1%)	12,618(1%)	137,762(1%)
WALTER REED NATL MIL MED CNTR	15,495(1%)	15,007(1%)	15,393(1%)	13,270(1%)	16,925(1%)	16,005(1%)	14,836(1%)	8,492(1%)	115,423(1%)

Recap

- DoD/VA Resource Sharing is of benefit to both the VA and DoD.
- DoD/VA Resource Sharing can result in people who typically ineligible to receive care as a result of the agreements.
- It is beneficial to incorporate DAVINCI data into research, especially where there are active resource sharing programs.
- Patient category code can be used to identify VA patients referred from the VA, but there are some quality problems with the field.
- Patient information process fields will be available in the future.
- If you want to study all VA patients, it's best to build a cohort since there are quality problems with patcat and some VA beneficiaries will seek care at MTFs using a DoD benefit.