



VA

U.S. Department
of Veterans Affairs

DaVINCI DoD Source Data: Querying Key DoD Concepts in DaVINCI

Wendy Funk

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Objectives

After attending the webinar, attendees will be able to:

- Recognize common DoD terminology that is often used to identifying and stratifying healthcare for the DoD population.
- Identify sensitive concepts, some of which are typically collapsed in reporting data
- Identify limitations in DoD data which DaVINCI cannot be used to workaround
- Describe how the DoD concepts have been crosswalked into the OMOP model using standardized (or other) concepts



DoD Healthcare Terminology

Terms to Cover

- Direct Care, Private Sector Care, and Resource Sharing
- Defense Medical Information System Identifier (DMIS ID) & Parent DMIS ID and contexts
- Geography (Catchment Area, PRISM Area, MTF Service Area)
- Enrollment & Eligibility
 - MTF Prime, Civilian Prime, Overseas Prime, Operational Forces Prime
 - TRICARE Plus
 - Healthcare Delivery Program Codes
 - Alternate Care Value and ACV Group
 - Enrollment Group
 - Eligibility Group
- Beneficiary Category & Bencat Common, Patient Category Code
- Service Branch, Rank, Unit Identification Code, Occupation Code
- DoD Unique Codes

What is the Military Health System?

- The MHS is a network of military hospitals and clinics ('direct care'), supplemented by programs to enable beneficiaries to seek care in the private sector ('private sector care') in order to fulfill their healthcare needs according to access standards and to assure medical readiness of the force.

Our Mission

Enhance the Department of Defense and our nation's security by providing health support for the full range of military operations and sustaining the health of all those entrusted to our care.

Our Vision

Be a world-class health care system that supports the military mission by fostering, protecting, sustaining and restoring health.



Direct Care, Purchased Care, and Resource Sharing

Direct Care vs. Private Sector Care

- What is Direct Care?

- Term referring to care provided at military treatment facilities (MTFs)
- Direct care is free for eligible beneficiaries
- Access is based on priorities

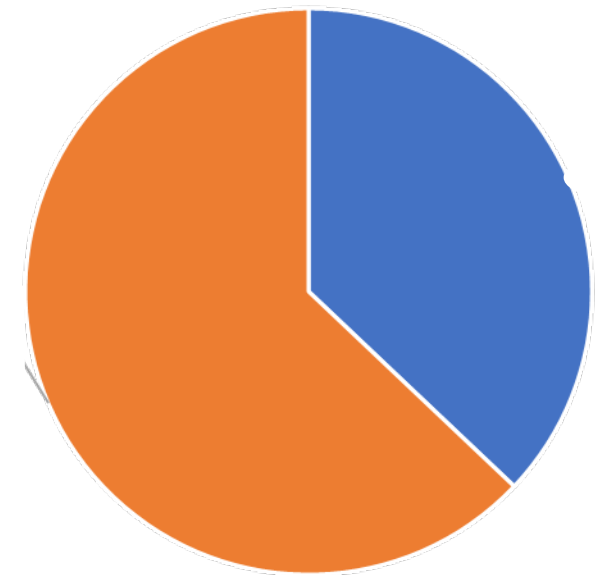
- What is Private Sector Care?

- Term referring to care provided outside of MTFs, paid for by the Military Health System
- Cost sharing applies and varies by plan and type of beneficiary

- What is Theater/Line Care?

- Care provided by the Services outside of the Military Health System, such as on a ship or in theater

Direct Care and Purchased Care Split, FY 2021



■ Direct Care ■ Purchased Care

Representation of Direct and Private Sector Care in DaVINCI Source Files

Color Key
Direct Care
Private Sector Care
Line / Theater
All of the Above

DoD DaVINCI Data Sources
Direct Care Inpatient Admissions (SIDR)
Direct Care Professional Encounters (CAPER)
Purchased Care Institutional (TEDI)
Purchased Care Non-Institutional (TEDN)
Pharmacy Data Transaction Service (PDTs)
Direct Care Laboratory Ancillary
Direct Care Radiology Ancillary
Designated Provider (Clinical)
Designated Provider (Pharmacy)
Direct Care Vitals (Vitals)
Direct Care Dental Encounter (DED)
CDR Chemistry (Chemistry)
CDR Radiology (Rad_Results)
CDR Microbiology (Microbiology)
CDR Microbiology Susceptibility (Micro_Suscept)
CDR Pathology (Pathology)
CDR Medications (Medications)
CDR Immunizations (Immunization)
MHS GENESIS Immunizations (Immunization_Gen)
TMDS (Theater) Encounters
TMDS (Theater) Medications
Referral

- For patients treated in direct care, there is detailed clinical data available.
- For Private Sector Care, only administrative data are available.
- Minimal data for Line Care
- This has a substantial impact on interpretation of data.

Direct and Private Sector Care

- Some care is both direct and private sector care, called External Resource Sharing
- MTFs can partner with private sector hospitals (or VAs), enabling MTF providers to treat patients in other settings

Direct Care record of provider's work at an external facility

Tmt DMIS ID	Tmt DMIS ID Name	Tmt DMIS ID Military Service	Pseudo Person ID	Encounter Date	MEPRS3 Code	MEPRS3 Code Description
5374	ERS-CHRISTUS SANTA R-CIV	5	00140DC8A3	01/11/2021	AEA	ORTHOPEDICS

External Resource Sharing

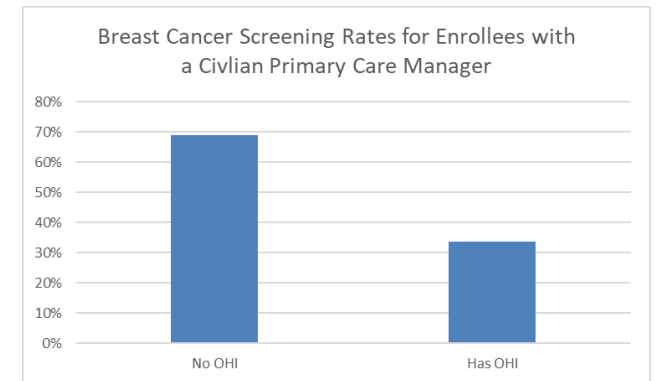
5 = DoD Civilian Resource Sharing

Private Sector Care Hospital Claim

Pseudo Person ID	MS-DRG	MS-DRG Description	Admission Date	End Date Of Care
00140DC8A3	470	MAJOR HIP & KNEE JOINT REPLACEMENT OR REATTACHMENT OF LOW EXTREMITY W/O MCC	01/11/2021	01/12/2021

Direct Care vs Private Sector Care

- Direct Care data will be more robust than Private Sector Care
- There are more data types for direct care, including clinical data like lab results.
- Private Sector care data is governed by Managed Care Support Contracts; generally very similar to Medicare claims
- Claims are only received for private sector care when reimbursement from TRICARE is needed
 - When patients have other health insurance, OHI is billed first, then TRICARE.
 - If there is no payment after the OHI is paid, TRICARE does not receive a claim.
 - The data doesn't always tell the whole story!



Health plans are required to cover preventive care with no co-pays due to the ACA.

Direct Care vs Private Sector Care

- Additional censoring in **Private Sector Care** due to bundling
- Diagnosis Related Group (DRG) payments for acute care inpatient stays include technician services, most supplies, pharmacy, labs, etc.
 - You will not see these services separately coded.
 - For example, if an inpatient receives physical therapy and a hospital is paid by DRG, there will be no CPT codes for physical therapy. No NDC codes for drugs, etc.
- Bundled surgical payments mean you cannot see pre/post operative care or prenatal or postpartum CPT codes.
- With Private Sector care making up so much of the care MHS beneficiaries receive, this censoring should be considered when interpreting data.

Defense Medical Information System Identifier
(DMIS ID)
&
Parent DMIS ID
and contexts

Defense Medical System Identifiers

- **What is a DMIS ID?**
 - Similar to a station code in the VA when used to identify an MTF.
 - The Defense Medical Information System was an old data mart that the MHS operated.
 - In it, identifiers were assigned for each MTF.
 - Direct care data are generally queried by DMIS ID.
 - The Treatment DMIS ID represents the facility where care is provided
 - 4-character code, it is customary to keep all 4 characters
 - DMIS IDs are also used in other contexts.

Example DMIS IDs

DMIS ID	DMIS ID Name
0029	NMC SAN DIEGO
0032	ACH EVANS-CARSON
0033	AF-ASU-10th MEDGRP-ACADEMY
0067	WALTER REED NATL MIL MED CNTR
0418	USCG CLINIC ALAMEDA
5486	ERS-AF-SUNRISE HOSP-CIV

Parents and Children

- Treatment Parent DMIS ID
 - The parent DMIS ID is the DMIS ID of the primary entity responsible for reporting data for one or more MTFs.
 - Example:
 - Child DMISIDs (outlying clinics) as part of a parent.
 - Resource sharing DMISIDs, associated with a parent.
- The difference between parent and child level reporting can be extreme!

Parent DMIS ID	Parent DMIS ID Name	DMIS ID	DMIS ID Name
0100	NHC NEW ENGLAND	0035	NBHC GROTON
	NHC NEW ENGLAND	0100	NHC NEW ENGLAND
	NHC NEW ENGLAND	0321	NBHC PORTSMOUTH
	NHC NEW ENGLAND	0328	CBHC SARATOGA SPRINGS
	NHC NEW ENGLAND	5358	ERS-NAVY-KENT CO MEM HOSP-CIV
	NHC NEW ENGLAND	5401	ERS-NAVY-NEWPORT HOSPITAL-CIV

Example:

How many visits did Davis Monthan AFB have in the last 3 years?

Source Data Example

Tmt DMIS ID and Tmt Parent DMIS ID

The screenshot shows a query builder interface with the following components:

- Query Panel:** Includes an "Add Query" dropdown, a toolbar with icons for saving, undo, redo, and running, and a "Run Query" button.
- Universe outline:** A tree view on the left showing a "master perspective" with folders for "Surgery GENESIS", "Inpatient Admissions (S)", "Professional Encounters", "CAPER Summary", and "CAPER Detail". Under "CAPER Detail", there are several items with orange bars, including "Actual Appointm", "APC Aggregate V", "Composite Weigl", "Composite Weigl", "Days Since Most", "E&M 1 PE RVU, I", "E&M 1 Work RVL", and "E&M 2 PE RVU, I".
- Result Objects:** A central area with buttons for "CY", "FY", "Tmt Parent DMIS ID", "Tmt Parent DMIS ID Name", "Tmt DMIS ID", "Tmt DMIS ID Name", and "Encounters".
- Query Filters:** A section at the bottom with an "AND" operator and two filter boxes. The first filter is "CY In List" with the value "2019;2020;2021". The second filter is "Tmt Parent DMIS ID In List" with the value "0010".

OMOP Example – Care Site

```
SELECT EXTRACT(YEAR FROM A.visit_start_datetime
  as OccYear, COUNT(visit_occurrence_id)
FROM visit_occurrence AS A
LEFT JOIN care_site AS B
ON A.care_site_id = B.care_site_id
WHERE B.dv_dmisisd = '0010'
AND OccYear IN ('2019', '2020', '2021')
GROUP BY OccYear
order by OccYear ASC
```

A graphic consisting of a solid blue rounded rectangle in the background and a light blue rounded rectangle in the foreground. The text "MEPRS Codes" is centered in the light blue area.

MEPRS Codes

A graphic consisting of a solid blue rounded rectangle in the background and a light blue rounded rectangle in the foreground. The text "Nursing Location Codes" is centered in the light blue area.

**Nursing Location
Codes**

MEPRS Codes

- The Medical Expense and Performance Reporting System (MEPRS codes) is the cost accounting system used at MTFs.
 - MEPRS code are visible in direct care data files.
 - MEPRS Code are 4-digit codes, but are often split apart into MEPRS1 Code, MEPRS2 Code, MEPRS3 Code (left substring)
 - Similar to Stop Codes and Treating Specialties in the VA.
- MEPRS Codes represent the Chart of Accounts for MTFs
 - For outpatient care, represents a care location, like a primary care clinic.
 - For inpatient care, represents the medical service (specialty) treating the patient
 - Used in financial, clinical and HR systems in the MHS

MEPRS Codes at MTFs

MEPRS Codes are hierarchical; each digit adds more detail

MEPRS1 Code= A
 MEPRS2 Code =AA
 MEPRS3 Code= AAA
 MEPRS4 Code = AAAA

MEPRS1 Code	Represents
A	Inpatient Care
B	Ambulatory Care
C	Dental Care
D	Ancillary Care
E	Support Expenses
F	Special Program
G	Readiness

MEPRS2 Codes

Clinical Area	Inpatient	Ambulatory
Medicine	AA	BA
Surgery	AB	BB
OB/GYN	AC	BC
Pediatrics	AD	BD
Orthopedics	AE	BE
Mental Health	AF	BF
Family Practice	AG	BG

MEPRS Codes in MTF Data

MEPRS 3 Codes: The third digit splits apart the type of care..

Not just an outpatient location (B) or outpatient surgery location (BB); the third digit clarifies the type of outpatient surgery

MEPRS3 Code	MEPRS3 Code Description
AAA	INTERNAL MEDICINE
BAA	INTERNAL MEDICINE CLINIC
BBA	GENERAL SURGERY CLINIC
BBB	CARDIOVASCULAR & THORACIC SURGERY CLINIC
BBC	NEUROSURGERY CLINIC
BCB	OBSTETRICS AND GYNECOLOGY CLINIC
BHI	IMMEDIATE CARE CLINIC
BIA	EMERGENCY MEDICAL CLINIC

MEPRS4 Code	MEPRS4 Code Description
BFE2	SRP SOCIAL WORK CARE MANAGERS
BFEA	SOCIAL WORK CLINIC
BFEC	WTU SOCIAL WORK CLINIC
BFED	CAPES SOCIAL WORK CLINIC
BFEF	SOCIAL WORK-MARRIAGE AND FAMILY THERAPY
BFET	TBI 1 SOCIAL WORK CLINIC
BFEY	R & R SOCIAL WORK

MTFs can generally use the 4th digit to account for special things. In this example, BFE is always social work, but the 4th digit allows the MTF to track special items, such as “WTU – Warrior Transition Unit” social work.

4th digits are *generally* not standardized and must be used together with a DMIS ID to interpret correctly.

MEPRS Codes in MTF Data

Example of a non-standard 4th Digit (B)

MEPRS Code BAAB and Descriptions by MTF

Tmt Parent DMIS ID	MEPRS4 Code	MEPRS4 Code Description
0006	BAAB	INTERNAL MEDICINE MEDICAL HOME TEAM B NON-GME
0014	BAAB	DGMC IMC PCMH TEAM B
0029	BAAB	COUMADIN CLINIC
0032	BAAB	DISEASE MANAGEMENT CLINIC
0042	BAAB	OUTPT INTERNAL MEDICINE CLINIC B
0045	BAAB	OUTPT INTERNAL MEDICINE CLINIC
0067	BAAB	GERIATRICS CLINIC
0079	BAAB	PCMH TEAM B INTERNAL MEDICINE CLINIC
0117	BAAB	IMC TEAM B
0120	BAAB	OUTPT INTERNAL MEDICINE CLINIC
0123	BAAB	OUTPT INTERNAL MEDICINE CLINIC FX
0124	BAAB	AMBULATORY INFUSION CENTER

Example of a standard 4th Digit (5)

B**5 represents “Ambulatory Procedure/Surgery”

Tmt DMIS ID	MEPRS4 Code	MEPRS4 Code Description
0005	BBA5	APV GENERAL SURGERY FWA
0006	BBA5	GENERAL SURGERY AMBULATORY PROCEDURE UNIT
0029	BBA5	GENERAL SURGERY APV
0032	BBA5	GENERAL SURGERY AMBULATORY PROCEDURE VISIT
0038	BBA5	APV GENERAL SURGERY 00203
0039	BBA5	GENERAL SURGERY APV CL 00232
0042	BBA5	GEN SURGERY CLINIC-APV
0047	BBA5	APV, GENERAL SURGERY CLINIC EAMC
0048	BBA5	APV GENERAL SURGERY
0049	BBA5	GENERAL SURGERY CLINIC - APV

MEPRS Codes in MTF Data

- MEPRS Codes are in the care_site data in OMOP.

```
47 SELECT dv_meprs4, dv_dmisd, care_site_name
48 FROM care_site
49 where dv_meprs4 = 'BAAB'
50 group by dv_meprs4, dv_dmisd, care_site_name
51 order by dv_dmisd asc
52
53
```

52:1 [1051] INS

Log 1: care_site [42] X

*	dv_meprs4	dv_dmisd	care_site_name
1	BAAB	0006	AF-H-673RD MEDGRP JBER-ELMNDRF - INTERNAL MEDICINE TEAM B NON-GME
2	BAAB	0014	AF-MC-60TH MEDGRP-TRAVIS - DGMC IMC PCMH TEAM B NON GME
3	BAAB	0029	NMC SAN DIEGO - COUMADIN CLINIC
4	BAAB	0032	ACH EVANS-CARSON - DISEASE MANAGEMENT CLINIC
5	BAAB	0033	AF-ASU-10TH MEDGRP-ACADEMY - COUMADIN CLINIC
6	BAAB	0039	NH JACKSONVILLE - POLYPHARMACY HOSP 00232
7	BAAB	0042	AF-H-96TH MEDGRP-EGLIN - INTERNAL MEDICINE TEAM B - NON GME
8	BAAB	0043	AF-C-325TH MEDGRP-TYNDALL - INTERNAL MEDICINE CLINIC
9	BAAB	0045	AF-C-6TH MEDGRP-MACDILL - OUTPT INTERNAL MEDICINE CLINIC
10	BAAB	0047	AMC EISENHOWER-GORDON - AMHI03BBBLUE
11	BAAB	0049	ACH WINN-STEWART - DISEASE MANAGEMENT CLINIC
12	BAAB	0058	AHC MUNSON-LEAVENWORTH - INTERNAL MEDICINE CLINIC
13	BAAB	0062	AF-C-2ND MEDGRP-BARKSDALE - INTERNAL MEDICINE CLINIC

MEPRS Codes and Nursing Unit Locations

- MEPRS Codes were not built into MHS GENESIS, the Cerner EHR that is being implemented in MTFs.
 - Instead, MHS GENESIS uses Nursing Unit Codes
 - These have been mapped to MEPRS codes
 - Translates well for office-based care.
 - Nursing Unit = DMIS ID + Type of Facility + Type of Location
 - These codes have not been added to DaVINCI yet but should be there soon

Example Codes and Mappings

DMIS ID	DMIS ID Name	Nurse Unit Loc Code GENESIS	MEPRS3 Code	MEPRS3 Code Description
0005	ACH BASSETT-WAINWRIGHT	0005C-FM-AURORA	BGA	FAMILY MEDICINE CLINIC
0005	ACH BASSETT-WAINWRIGHT	0005C-FM-DENALI	BGA	FAMILY MEDICINE CLINIC
0005	ACH BASSETT-WAINWRIGHT	0005C-OBGYN-CL	BCB	OBSTETRICS AND GYNECOLOGY CLINIC
0014	AF-MC-60th MEDGRP-TRAVIS	0014C-PULM-CL	BAN	PULMONARY DISEASE CLINIC
0024	NH CAMP PENDLETON	0024A-PT-CL	BLA	PHYSICAL THERAPY CLINIC

Locations and MHS GENESIS

Travis Inpatient Nurse Unit Locations

- Inpatient Nursing Units represent wards.
- Inpatient MEPRS Codes represent specialties.
- When sites go onto MHS GENESIS, the granularity of the inpatient MEPRS codes is no longer available.
 - Specialty codes can be used to supplement the information in the nursing unit code.

DMIS ID	Nurse Unit Loc Code GENESIS	MEPRS4 Code
0014	0014A-INP-MMW4W	AAXA
0014	0014A-INP-MSW3C	ABXA
0014	0014A-INP-PSYW4E	AFXA
0014	0014A-LDRP-MBU	ACXA
0014	0014A-LDRP-MBUOP	ACXA

Tmt DMIS ID	MEPRS4 Code	MEPRS4 Code Description
0014	AAAA	INTERNAL MEDICINE
0014	AABA	CARDIOLOGY
0014	AAFA	GASTROENTEROLOGY
0014	AAJA	NEUROLOGY
0014	AAKA	HEMATOLOGY AND ONCOLOGY
0014	AALA	PULMONARY/UPPER RESPIRATORY DISEASE



Geography

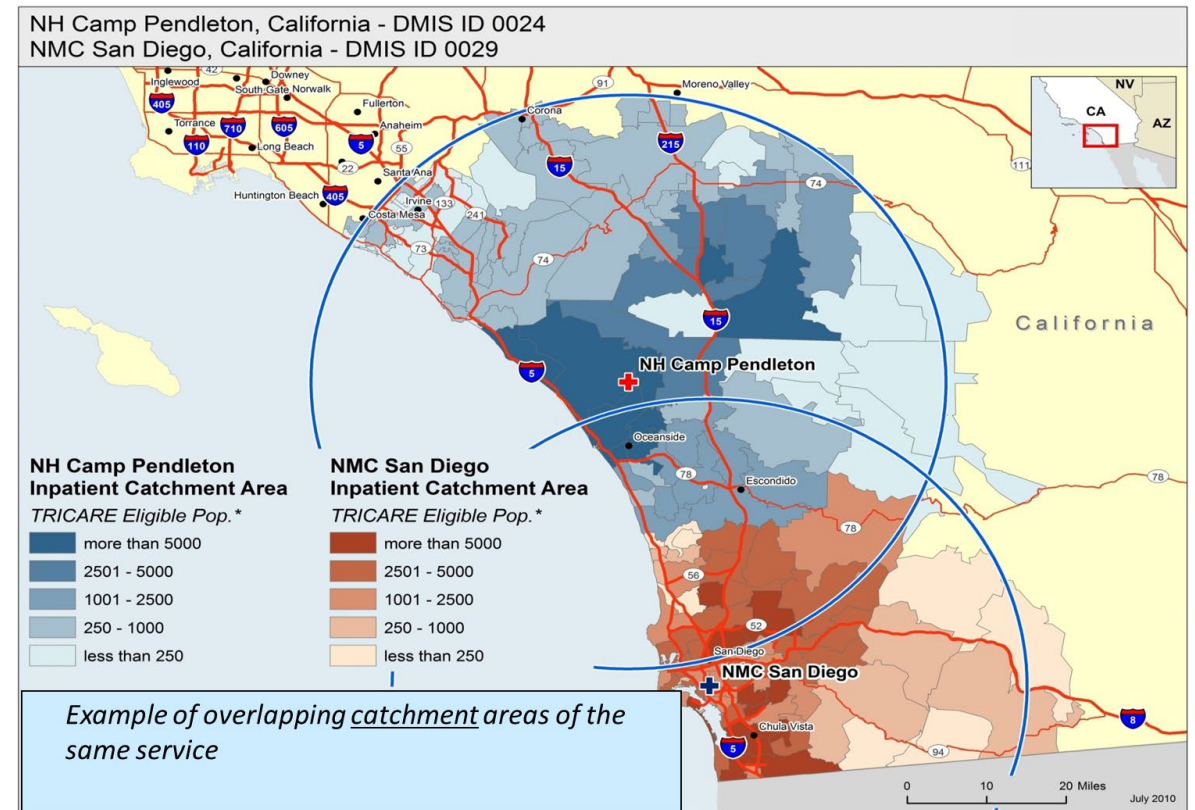


Geography

- Geography and healthcare are linked
- Where someone lives has substantial impact on health
 - Availability of providers
 - Living condition (pollution, food, etc)
 - Practice patterns in a local area
 - Etc.
- Boundaries used to segregate and study geographic variations are not always applicable to the Military Health System
 - The situations on base can be drastically different than nearby civilian locations. Consider the population at West Point, NY compared with NYC.
 - Active Duty and their families live on or near bases usually
 - Retirees often live near bases as well, since they offer commissaries, healthcare facilities, etc.
- For this reason, the MHS develops custom geographic concepts to use to study the military populations.

Geography

- MHS Geographic locations are centered off the latitude/longitude of the hospitals and clinics.
- From that point, a circle is drawn and zip codes inside the circle are considered part of that MTFs area
- The map to the right shows Camp Pendleton and Naval Medical Center San Diego and the custom geographic areas designed for them.
- Both are inpatient MTFs, the local population is split among them based off of distance.
- Together, they constitute the “San Diego Market”. (Market is not available in DaVINCI)



Geography

- There are three basic geographic concepts available in DaVINCI source data, which differ based on the size of the circle and the type of MTF.

Type of Area	Radius	Inpatient MTFs	Ambulatory Clinics
Catchment Area	40 mile	x	
PRISM Area	20 mile	x	x

- The code set for these variables is the DMIS ID of the MTF.
- There is also geography for areas outside the 40-mile radius of an MTF. These are segregated by state or country; for example, non-catchment Alaska.
- Geographic concepts have not been fully modeled into OMOP.

Geographic Areas

Geographic area variables are applied based on:

- Residence Location

- Used for classifying populations
- Or locations of beneficiaries receiving healthcare
- In direct and purchased care and population data

FY	Catchment Area ID	Catchment Area Name	Admissions, Total
2021	0067	WALTER REED NATL MIL MED CNTR	7,212

- Provider Location

- Collect up care provided in an area
- Just in purchased care

FY	Provider Catchment Area ID	Provider Catchment Area Name	Admissions, Total
2021	0067	WALTER REED NATL MIL MED CNTR	11,425

Query Panel

Universe outline: MHS MART (M2) > Purchased Care

Result Objects: FY, Catchment Area ID, Catchment Area Name, Admissions, Total

Query Filters: FY In List: 2021, Catchment Area ID In List: 0067

Query Panel

Universe outline: MHS MART (M2) > Purchased Care

Result Objects: FY, Provider Catchment Area ID, Provider Catchment Area Name, Admissions, Total

Query Filters: FY In List: 2021, Provider Catchment Area ID In List: 0067



Eligibility and Enrollment



Eligibility and Enrollment

- TRICARE eligibility is granted via law (“entitlement”)
 - Person called an “eligible”
- MHS eligibility is granted for:
 - Active Duty Service Members and their families
 - Guard and Reserve on orders for more than 30 days and their families
 - Retirees and their families
 - Survivors
 - Selected Others (Line of duty, Secretarial designees, Certain foreign military, etc.)
- MHS Eligibility can also be purchased in certain cases.

Enrollment and Eligibility for the MHS

Prior to 2018:

- Default Access – Direct Care + TRICARE for Life (TFL) + TRICARE Standard (FFS)
- Automatic enrollment in Standard if an alternate plan not selected and not aged into Medicare.
- TRICARE Prime – opt in via enrollment
- Fee Programs – Guard/Reserve members not on active duty may purchase TRICARE Standard and Young Adults up to 26 can purchase Standard or Prime.
- Enrollment/Disenrollment could occur throughout the year.

After 2018:

- Default Access – Direct Care + TRICARE for Life (TFL)
- TRICARE Standard replaced with TRICARE Select. Annual enrollment required.
- TRICARE Prime – opt in via enrollment
- Fee Programs - Guard/Reserve members not on active duty may purchase TRICARE Select and Young Adults up to 26 can purchase Select or Prime.
- Open season – locked in for the year unless there is a qualifying life event.

TRICARE Program Comparison

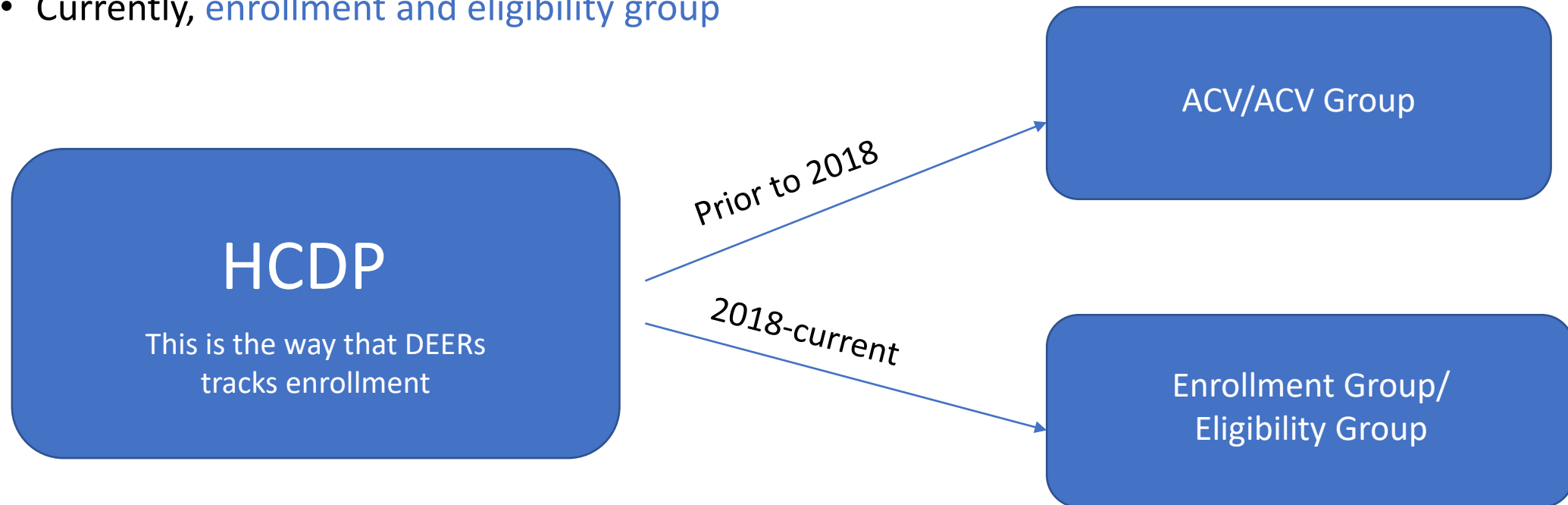
Program	Eligibility	Access	Type of Plan	Comment
Standard/Select	Cannot have aged into Medicare	No referrals required. Direct care access but no special designation	Fee for Service	Standard/Select patients are more likely to be retired, and have higher other health insurance percentage than others
TFL	Medicare patients who purchase Medicare Part B	No referrals required. Lowest priority for MTF Access unless also enrolled in TRICARE Plus	Fee for Service	Wraparound program. TRICARE pays second to Medicare
Prime	Cannot have aged into Medicare	Referrals required. Preferred access to care	HMO	Low levels of other health insurance. More heavily active duty and family
Plus	Non-Active Duty	Preferred access at MTFs. No impact on private sector care	No extra coverage.	Mostly Medicare eligibles
Designated Provider	Cannot have aged into Medicare (except for those grandfathered)	No access to MTFs or regular Private Sector Care. Can only be treated by the Designated Provider	HMO	Capitated plan. Only available in 6 areas of the US

The TRICARE Prime population will have the most complete and robust data (heavy users of direct care, lower other health insurance).

Many DoD analysts/researchers limit studies to those in Prime where appropriate.

Tracking Eligibility and Enrollment

- The Healthcare Delivery Program Code (HCDP) is the fundamental way enrollment and eligibility is tracked.
- Two types: Assigned and Enrolled
- The groupings of HCDP below are more commonly used within DoD.
- Currently, [enrollment and eligibility group](#)



Enrollment and Eligibility Group

Enrollment Group

Enrollment Group	Enr Grp Desc	Beneficiary Count
D	Direct Care Only	675,627
L	Plus	207,149
P	Prime	4,344,156
S	Select	2,038,849
U	Designated Provider	156,194
Z	None	2,116,980

- Direct Care Only are mostly unenrolled Active Duty (basic training, e.g.)
- Some of the DCO are in the TRICARE Plus category for enrollment group
- None are mostly TRICARE for Life

Eligibility Group

Eligibility Group	Elg Grp Desc	Beneficiary Count
D	Direct Care Only	680,150
E	Select/Prime Eligible	6,008,038
L	TRICARE for Life	2,395,608
R	Reserve Retiree Select	12,393
S	Reserve Select	399,912
Y	Young Adult	36,259
Z	None	6,595

- Direct Care Only are mostly unenrolled Active Duty (basic training, e.g.)

Enrollment and Eligibility

- Enrollment Group, Eligibility Group and Assigned HCDP are available for only 2018 and later.
- Enrollment HCDP is available for all years; but all of the valid values changed at the beginning of 2018.
- All members were disenrolled and re-enrolled in December 2018 to get the new values.

Sample Values for Assigned HCDP

Code	Description
001	TRICARE Prime for Active Duty Sponsors, No PCM Assigned
002	Direct Care Active Duty Family Members
008	Direct Care for Retired Sponsors and Family Members
018	TRICARE for Life for Retired Sponsors and Family Members and Medal of Honor

Sample Values for Enrolled HCDP

Code	Description
305	TRICARE Select - Retired Sponsors and Family Members
310	TRICARE Prime - AD Sponsors
311	TRICARE Prime - AD Family Members
315	TRICARE Prime - Retired Sponsors and Family Members

Alternate Care Value (ACV) and Group

ACV – FY2017, FM12

ACV	ACV Desc	Beneficiary Count
A	Active Duty Prime	1,029,607
B	Overseas Remote AD	11,287
E	Prime NonAD	3,004,400
F	Overseas Remote ADFM	7,365
G	Plus with Civ Cvg	208,069
H	Overseas Prime AD	157,456
J	Overseas Prime ADFM	119,075
L	Plus w Civ Cvg	4,724
M	Unenrolled AD	197,211
Q	Operational Forces	139,830
R	Reserve Select	387,967
U	Designated Provider	147,768
V	Retiree Reserve Select	8,797
Z	No Enrollment	3,995,459

ACV Group – FY2017, FM12

ACV Group	Beneficiary Count
Desig Prov	147,768
Other	4,392,223
Overseas Remote	18,652
Plus	212,793
Prime	4,310,538
Reliant	337,041

- Legacy enrollment concepts for the MHS.
- Use these to identify people in specific programs prior to 2018.

Enrollment DMIS ID

- DMISIDs are also used to identify enrollment entities
- Enrollment Site will contain an MTF DMISID if the beneficiary is enrolled to an MTF.
- Additional enrollment sites:
 - 6923: Civilian Prime, Region East
 - 6924: Civilian Prime, Region West
 - 7923: Civilian Prime Remote, Region East
 - 7924: Civilian Prime Remote, Region West
 - 63xx: Navy Operational Forces (Many different values, associating operational forces with a base)
 - 019x: Designated Provider (6 different values for each plan)

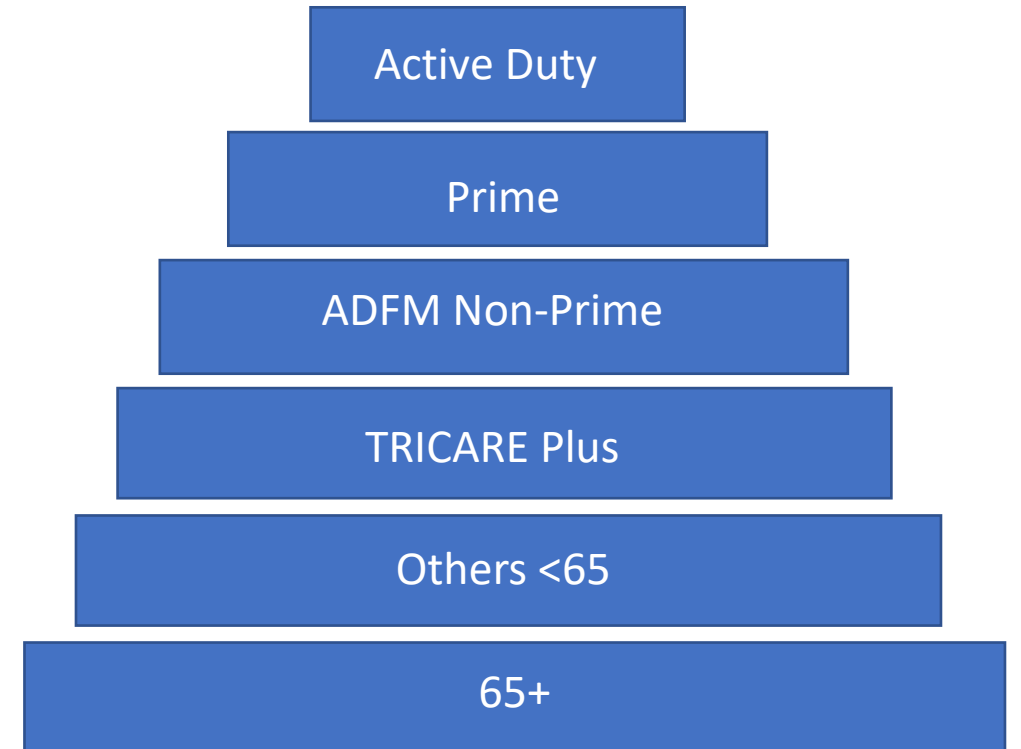
Enrollment Site Parent	Enrollment Site Parent Name	Beneficiary Count
6923	MNG CARE-R 23 1JAN2018 (EAST)	851,709
6924	MNG CARE-R 24 1JAN2018 (WEST)	353,657
0124	NMC PORTSMOUTH	159,955
0089	AMC WOMACK-BRAGG	117,219
0029	NMC SAN DIEGO	115,821
0125	AMC MADIGAN-LEWIS	108,550
0110	AMC DARNALL-HOOD	99,887
0123	FT BELVOIR COMMUNITY HOSP-FBCH	95,779
0039	NH JACKSONVILLE	82,599
0109	AMC BAMC-FSH	79,281

Enrollment and Eligibility

- Eligibility and Enrollment fields are available in the source data only, at this time, in the “LVM” file.
 - The LVM file is somewhat difficult to use, however.
- Adding these concepts to the payer_plan OMOP table is a work in progress.

Location of Care and TRICARE Beneficiaries

- Tiered Access for Direct Care
 - Active Duty are appointed first
 - TRICARE Prime Enrollees next
 - Then Active Duty Family
 - TRICARE Plus
 - Retirees/Other <65
 - 65 and Older
- There are direct care access standards for Prime enrollees
- There is less private sector care for Prime enrollees as a result of this.



Beneficiary Category and Benefit Common

Beneficiary Category

- Beneficiary category is an extremely important variable in the MHS, especially with varying benefits based upon it.
- Beneficiary Category and Bencat Common – are available in source data, but not in OMOP.

Ben Cat Common	BCC Desc	Beneficiary Category	Beneficiary Category Desc	Beneficiary Count
1	ADFM/Activated Guard or Reserve FM	DA	Active Duty Family	1,598,581
1	ADFM/Activated Guard or Reserve FM	DGR	Dep of Guard/Res on AD	314,041
2	Retiree	RET	Retirees	2,222,933
3	Retiree FM and Others	DR	Retiree Family	2,631,869
3	Retiree FM and Others	DS	Survivor	610,101
3	Retiree FM and Others	IDG	Inactive Guard/Res Family	312,118
3	Retiree FM and Others	IGR	Inactive Guard/Res	206,669
3	Retiree FM and Others	OTH	Other	32,621
3	Retiree FM and Others	Z	Unknown	193
4	AD/Activated Guard or Reserve	ACT	Active Duty	1,394,922
4	AD/Activated Guard or Reserve	GRD	Guard/Res on AD	214,907

Beneficiary Category

- Sometimes a person can have more than one benefit
- Example: Joe Smith is in the Reserves and is married to an Active Duty Service Member

When Joe is not on Active Duty he still has a benefit, as a dependent of Jane.

Name	Person ID	Sponsor ID	Beneficiary Category
Jane Smith	A	A	Active Duty
Joe Smith	B	A	Active Duty Dependent

When Joe is on Active Duty he no longer shows as a dependent

Name	Person ID	Sponsor ID	Beneficiary Category
Jane Smith	A	A	Active Duty
Joe Smith	B	B	Activated Guard



If someone has more than one benefit, DaVINCI will characterize the patient at the “highest benefit” level.

Patient Category

- Patient Category is an attribute of an encounter.
- Only coded in direct care data
- Basis for third part billing or interagency reimbursement.
 - The MHS bills for other health insurance, Coast Guard, VA referred care, and other care for those not eligible.
- >200 Detailed categories.
- Usually a combination of sponsor service and relationship to sponsor (similar to bencat).
- Also has values for non-eligible beneficiaries.
- VA patients have their own patient category when referred by the VA to an MTF.
- This field is being replaced in MHS GENESIS soon.
- Not in OMOP.

Examples

Patient Categories	
Code	Description
A11	Army Active Duty
F11	Air Force Active Duty
K61	Other Beneficiaries Of U.S. Govt. Veterans Administration
K92	Civilian, No Govt. Connection Emergency

Patient Category

- Some patients can have more than one patient category code, too.
- In this example, we have an Army retiree who got an encounter using their military retiree benefit, and then right below it, we see the same person was referred from the VA and had an encounter at an MTF.

*Same person, different
Patient Categories*

Pseudo Person ID	Patient Category	Patient Category Description	Encounters
0123456789	A31	Army Retiree	1
0123456789	K61	V.A.	1
1111199999	N11	Navy Active Duty	1

Patient Category

The screenshot shows a query panel with the following components:

- Query Panel:** Includes an 'Add Query' dropdown, a toolbar with various icons, and a 'Run Query' button.
- Universe outline:** Shows a tree view under 'Master perspective' with folders for 'Inpatient Admissions (SIDR)', 'Professional Encounters (CAPER)', 'CAPER Summary', and 'CAPER Detail'. The 'CAPER Detail' folder is expanded, showing various metrics like 'Actual Appointment Duration', 'APC Aggregate Weight', etc.
- Result Objects:** A collection of fields including 'FY', 'FM', 'Enrollment Site', 'Enrollment Site Name', 'Enrollment Site Reporting Market Name', 'Patient Category' (circled in green), 'Ben Cat Common', 'Ben Cat Common Desc', and 'Encounters'.
- Query Filters:** Contains two filter conditions: 'FY Equal to 2022' and 'FM In List 6', connected by an 'AND' operator.

Query Results:

FY	FM	Patient Category	Patient Category Desc	Encounters
2022	6	A11	Army Active Duty	314,093
2022	6	F11	Air Force Active Duty	152,762
2022	6	N11	Navy Active Duty	113,294
2022	6	K61	V.A.	3,384
2022	6	A22		1,520

Patient Category

Example: Dispositions for patients referred to MTFs by the VA

This is billable care for the MTFs

The screenshot shows a query filter interface with the following elements:

- Buttons for "Dispositions", "Tmt DMIS ID", and "Tmt DMIS ID Name".
- A "Query Filters" section with a yellow funnel icon.
- Two filter criteria:
 - "CY In List" with a dropdown arrow and the value "2021".
 - "Patient Category In List" with a dropdown arrow and the value "K61".
- An "AND" button to the left of the filter criteria.

Sites with 100+ Dispositions for K61

Tmt DMIS ID	Tmt DMIS ID Name	Dispositions
0108	AMC WILLIAM BEAUMONT-FT BLISS	1,483
0052	AMC TRIPLER-SHAFTER	1,253
0014	AF-MC-60th MEDGRP-TRAVIS	1,211
0089	AMC WOMACK-BRAGG	421
0006	AF-H-673rd MEDGRP JBER-ELMNDRF	359
0067	WALTER REED NATL MIL MED CNTR	337
0079	AF-MC-99th MEDGRP-NELLIS	266
0109	AMC BAMC-FSH	262
0620	NH GUAM-AGANA	201
0073	AF-MC-81st MEDGRP-KEESLER	189
0124	NMC PORTSMOUTH	174
0095	AF-MC-88th MEDGRP-WRIGHT-PAT	134

Service-Related Data

Service Branch

Rank

Unit
Identification
Code

Occupation
Code

Sponsor Service

Sponsor Service:

- Code indicating the Service Branch of the Sponsor
- New value being added for Space Force
- Note Navy Afloat – much of their care would be in the TMDS Source data
- Not in OMOP.

Sponsor Service, Aggregate	Sponsor Svc Desc	Beneficiary Count
A	Army	3,979,705
C	Unknown	223,533
F	Air Force	2,570,995
M	Marines	718,829
N	Navy	1,661,738
V	Navy Afloat	321,442
X	Other	49,646
Z	Unknown	13,067

Rank

- While individual rank is available in MHS systems, only the rank group is made available to DaVINCI.
- Rank is considered a personal identifier by the MHS due to the small volume of Service Members at particularly high ranks. Sensitive field
- Rank is often used to compare officer to enlisted populations in research studies.
- Rank is sometimes used as a proxy for income, but with many spouses working, it's not necessarily a good proxy.
- Not in OMOP.

Sponsor Rank Group	Rank Description	Beneficiary Count
CD	Cadet	14,663
EJ	Junior Enlisted	769,484
ES	Senior Enlisted	2,179,339
OJ	Junior Officer	206,100
OS	Senior Officer	566,473
WO	Warrant Officer	96,326
XX	Unknown	377

Service-Related Data

- DaVINCI is provided unit information
 - Coded as a Unit Identification Code – or UIC
 - Assigned Unit is where the member is officially assigned and is always populated for Service Members
 - Attached Unit is only populated when the Service Member is attached to a different unit than the assigned unit.
 - Useful for looking at impacts on specific units.
 - This information can be viewed as sensitive.
 - Not in OMOP.



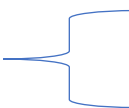
DoD Occupation Codes

- Both general and detailed job descriptions.
- >300 occupations.
- Not in OMOP.

Sampling from source data

DoD Occupation Code	Beneficiary Count
Infantry, General	1,258,447
Law Enforcement, General	894,454
Medical Care and Treatment, General	813,118
Aircraft, General	770,302
Ground and Naval Arms	637,495
Fixed-Wing Fighter and Bomber Pilots	114,682
Family Practice	4,067
Neurological Surgery	963

*Includes
physician
types.*





DoD Unique Codes

DoD Unique Codes

DoD uses diagnosis code data fields to hold DoD unique values – usually related to readiness.

Since ICD10, these codes always start with “DOD”

In the source data along with the regular diagnosis codes. Not in OMOP because there is no associated standard code.

Occupational Health Exams

Pre and Post Deployment Health Assessments

Separation Exams

Case Management

Periodic Health Assessments

Medical Boards

ICD-10 Diagnosis	Description, Short	MHS Unique Flag
DOD0301	CASE MANAGEMENT START	D
DOD0302	CASE MANAGEMENT CONTINUE	D
DOD0303	CASE MANAGEMENT END	D

ICD-10 Diagnosis	Description, Short	MHS Unique Flag
DOD0210	ASSESS,POST-DEPLY DD2978	D
DOD0211	ASSESS,PRE-DEPLY DD2795	D
DOD0212	ASSESS,POST-DEPLY DD2796	D
DOD0213	ASSESS,POST-DEPLY DD2900	D
DOD0214	EXAM,OCC,BASELINE	D
DOD0215	EXAM,OCC,PERIODIC	D
DOD0216	EXAM,OCC,TERMINATION	D
DOD0217	EXAM,OCC,FLY,LONG	D
DOD0218	EXAM,OCC,FLY,SHORT	D
DOD0219	EVAL,OCC,DES	D

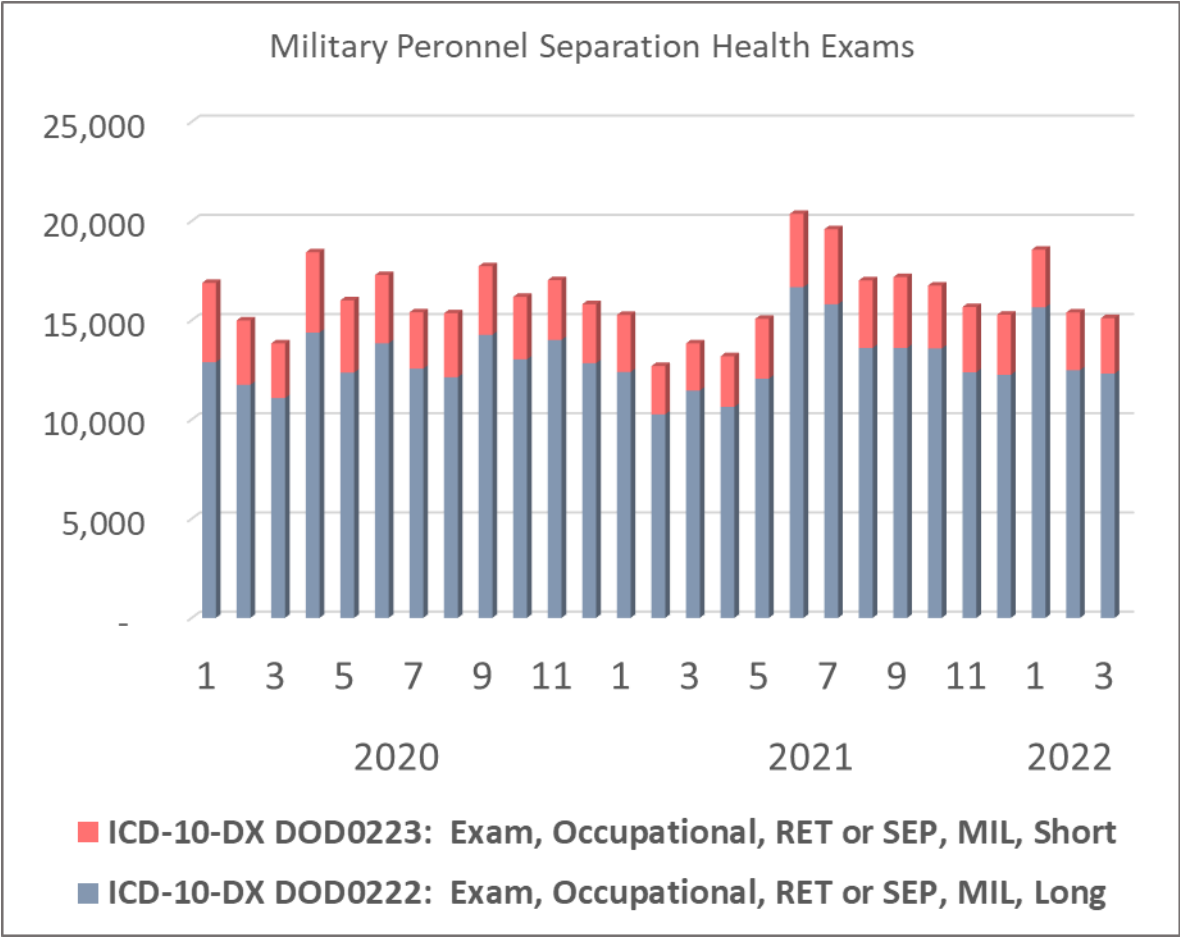
ICD-10 Diagnosis	Description, Short	MHS Unique Flag
DOD0220	EVAL,OCC,MEB	D
DOD0221	EVAL,OCC,PEB	D
DOD0222	EXAM,OCC,RET,SEP,MIL,LONG	D
DOD0223	EXAM,OCC,RET,SEP,MIL,SHORT	D
DOD0224	EXAM,OCC,PRP	D
DOD0225	ASSESSMENT,OCC,PHA DD3024	D
DOD0226	EXAM,OCC,PRT	D
DOD0227	EXAM,OCC,FETAL PROTECTION	D
DOD0228	EXAM,OCC,TDRL	D
DOD0229	EXAM,DOD MERB	D

DoD Unique Codes

Example: Measuring separation exams.

The screenshot shows a query panel with the following components:

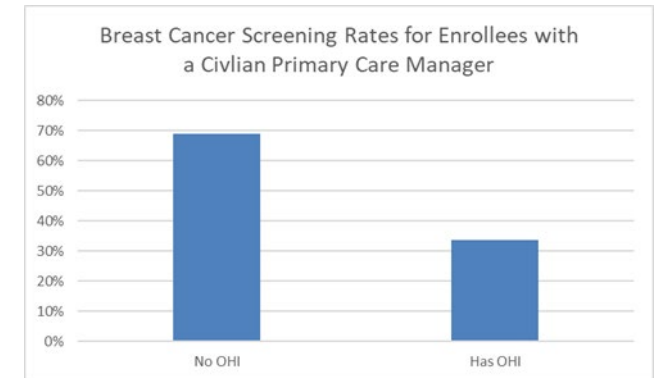
- Query Panel:** Includes an 'Add Query' dropdown, a toolbar with icons for various data operations, and a 'Run Queries' button.
- Universe outline:** A tree view on the left showing a 'Master perspective' with folders for 'Immunization GENESIS', 'Surgery GENESIS', 'Inpatient Admissions (SIDR)', and 'Professional Encounters (CAPER)'. Under 'CAPER Detail', several metrics are listed, including 'Actual Appointment Durati...', 'APC Aggregate Weight', 'Composite Weight for PMP', and 'Comsosite Weight for TFI'.
- Result Objects:** A horizontal bar containing filters for 'FY', 'FM', 'Diagnosis 1', and 'Encounters'.
- Query Filters:** A section at the bottom with an 'AND' operator and two filter boxes:
 - FY: Greater than or Equal to 2018
 - Diagnosis 1: In List DOD0222;DOD0223



Limitations

Limitations

- Some very relevant data has not been provided to DaVINCI.
 - Other Health Insurance Flags and Medicare Eligibility Flag –
 - These are extremely important to understand whether data are censored or not.
 - In the Breast Cancer Screening example earlier, note the difference in scores on screening rates for when a person has OHI or not.
 - The scores for the OHI patients are artificially suppressed because TRICARE does not receive claims for care when OHI pays 100%.
 - To work around this censoring problem, it's recommended that you use the TRICARE Prime population for research, because Prime patients have lower OHI rates than non-Prime and are rarely in Medicare.



Limitations

- Some very relevant data has not been provided to DaVINCI.
 - Defense Manpower Data Center (DMDC data)
 - Some data from DMDC is in DaVINCI (DEERS Eligibility and Enrollment Information)
 - But DHA does not have the authority to release personnel data from DMDC.
 - Deployment flags would be important because impacts of deployment are a fundamental research topic of Veterans.
 - Separation data would be important to know when a person separates and why.
 - Deployment and Separation data are not owned by the MHS.
 - Eligibility and Enrollment related fields are only available in a difficult-to-use source file (called LVM). Coming soon to payer_plan period.

Limitations

- Some GENESIS data is not yet being provided. The MHS is halfway through implementation.
 - GENESIS specific fields, such as nursing unit location codes
 - GENESIS Lab Results are not being sent but legacy data are.
 - GENESIS Vitals are not being sent but legacy data are.
- OMOP is intended to standardize common concepts
 - Since this presentation focuses on MHS unique terminology, much of what is discussed today is not going to be in OMOP.