



## Database & Methods Cyberseminar Series

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# An Introduction to VA Pharmacy Data: Sources and Uses for Medication Information

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**Bonnie Paris, PhD**

Data Knowledge Analyst

VA Information Resource Center

**Walid Gellad, MD, MPH**

CHERP Core Investigator

Staff Physician, VA Pittsburgh Healthcare System

Associate Professor, University of Pittsburgh

# Today's Topics

- Introduction
- Commonly used pharmacy data sources
- In-depth example of pharmacy research using VA data
- Resources

## Poll #1: Your role as a data user

### ***What is your role in the VA?***

- Investigator, PI, Co-I
- Data manager, analyst, or programmer
- Project coordinator
- Other – please describe via the Q&A function



## Learning Objectives

*By the end of this cyberseminar, attendees will:*

- Understand basic content and organization of key VA pharmacy data
- Appreciate the value of non-VA data sources to measure pharmacy use
- Know where to find resources about VA pharmacy data

# Today's Topics

- Introduction
- Commonly used pharmacy data sources
- In-depth example of pharmacy research using VA data
- Resources

# Commonly Used VA Pharmacy Data Sources

Medications Provided by or Paid for by the VHA

**Corporate Data  
Warehouse  
(CDW)**

**Observational  
Medical Outcomes  
Partnership  
(OMOP)**

**MCA National  
Data Extracts  
(MCA NDE)**

**Pharmacy  
Benefits  
Management  
(PBM)**

Non-VA Data:

**Medicare &  
Medicaid  
(CMS)**

## Poll #2: Your Use of VA Pharmacy Datasets

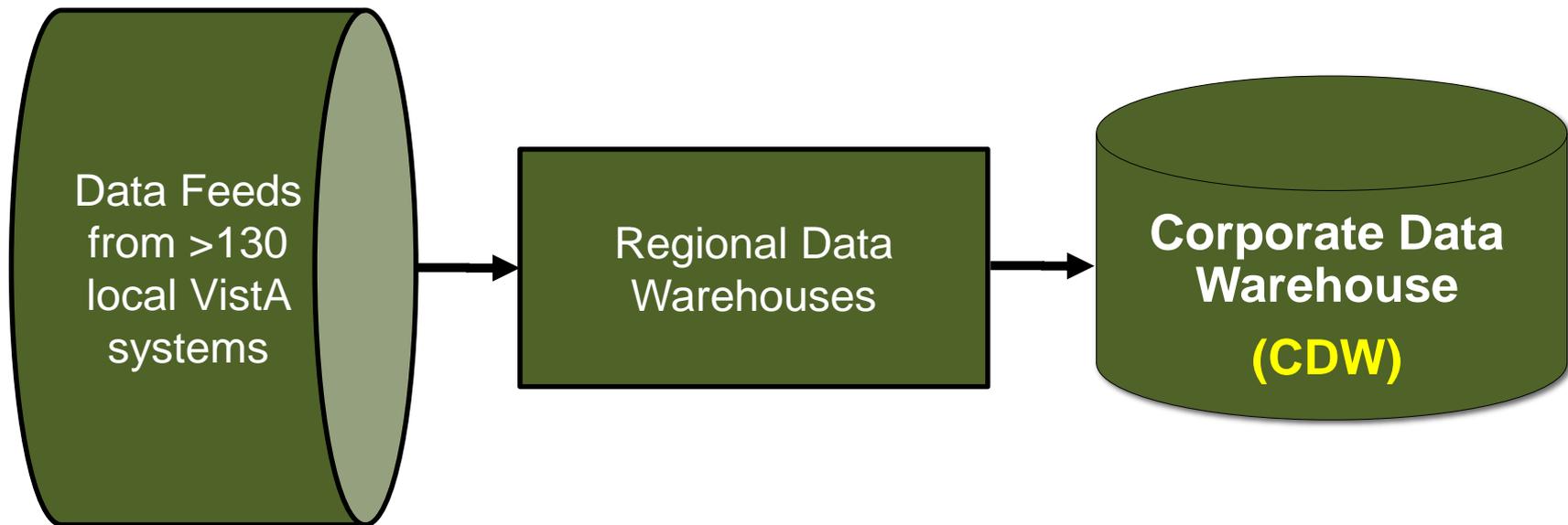
***Which sources of pharmacy data have you used in the past or plan to use in the future?***

*(select all that apply)*

- CDW Pharmacy Data
- OMOP Pharmacy Data
- MCA NDE Pharmacy Data
- PBM Pharmacy Data
- Medicare Part D Slim File
- None



# Corporate Data Warehouse (CDW)



## Example Variables – CDW

Variable	Meaning	Example data
LocalDrugNameWithDose	VA Product	HYDROCHLOROTHIAZIDE 25MG TAB
NationalFormularyName	Generic name	HYDROCHLOROTHIAZIDE TAB
DaysSupply	Days of supply	90
Qty	Total quantity	90
Sig	Patient Instructions	TAKE ONE TABLET BY MOUTH EVERY DAY FOR BLOOD PRESSURE
DispenseUnits	Units to take each time	1
DoseOrdered	Dosage amount	25
Unit	Dosage units	MG
MedRoute	Medication route	ORAL
Schedule	Schedule of when to take	QDAY
CMOPTransmitFlag	CMOP indicator	Y

The screenshot displays the VIReC Intranet homepage. At the top, there is a search bar with the text "Search All VA Web Pages" and a "Search" button. Below the search bar, the main header features the VIReC logo and the word "INTRANET" in a stylized font. The main content area is titled "VA INFORMATION RESOURCE CENTER (VIReC)" and is divided into several sections. On the left, there is a navigation menu with links such as "VIReC Home", "About Us", "VA/CMS Data for Research", "VHA Data Portal", "New Users of VA Data", "FAQs", "Acronyms", "HelpDesk", "Report Broken Link", and "How are we doing?". The central section is titled "CDW Documentation" and includes an "Overview" section with a paragraph explaining that CDW documentation is designed to help new and seasoned users. Below this, there is a "Sign-up for VIReC product news and updates" section and a "How are we doing?" section with a link to a "short survey". The "Data Documentation" section follows, with a sub-header "Expand each type of documentation below to view these resources." and a "+ Expand All" button. A list of expandable items includes "Getting Started with CDW", "Factbooks", "The Researcher's Notebook", "Statistical Snapshot", "Domain Layout & Descriptions", and "Data Contents, Discrete Frequencies, Record & Null Counts". On the right side, there is a "CDW" sidebar with a table of contents for "Overview", "Data Transition to CDW", and "Documentation". Below this is a section for "ICD-10 Implementation" with a link to a page to learn more. At the bottom of the sidebar is a "General Resources" section with links for "Data Access", "Data Sources", "Data Tools", "Data Topics", "Products & Services", and "Special Projects".

**VIReC** **INTRANET**

Search All VA Web Pages  Search [Open Advanced Search](#)

**VA INFORMATION RESOURCE CENTER (VIReC)**

VIReC Home  
About Us  
VA/CMS Data for Research  
VHA Data Portal  
New Users of VA Data  
FAQs  
Acronyms  
HelpDesk  
Report Broken Link  
How are we doing?

**CDW Documentation**

**Overview**

CDW documentation is designed to help new and seasoned CDW users with understanding the structure and contents of the CDW.

**Sign-up for VIReC product news and updates.** Email the VIReC [HelpDesk](#) to receive notification of VIReC's new CDW products and product updates.

**How are we doing?** Take our [short survey](#) to share your thoughts about the CDW resources below. We value your feedback.

**Data Documentation**

Expand each type of documentation below to view these resources.

- Getting Started with CDW
- Factbooks
- The Researcher's Notebook
- Statistical Snapshot
- Domain Layout & Descriptions
- Data Contents, Discrete Frequencies, Record & Null Counts

**CDW**

- Overview
- Data Transition to CDW
- Documentation

**ICD-10 Implementation**

Visit the "CDW ICD-10 Implementation" page to learn more.

**General Resources**

- Data Access
- Data Sources
- Data Tools
- Data Topics
- Products & Services
- Special Projects

<http://vaww.virec.research.va.gov/CDW/Documentation.htm>  
(VA Intranet)

# Observational Medical Outcomes Partnership (OMOP)



## Example Variables – OMOP

Variable	Meaning	Example data
LocalDrugNameWithDose	VA Product	HYDROCHLOROTHIAZIDE 25MG TAB
CONCEPT_NAME	Standardized medication name	Hydrochlorothiazide 25 MG Oral Tablet
REFILLS	Number of refills available	3
QUANTITY	Total quantity	90
DAYS_SUPPLY	Days of supply	90

**VAPULSE** News My Content My Groups Help Desk 21 1,459 points Create

**VINCI OMOP Users Group** Following in 1 stream Leave group

Overview Content People Projects Calendar Actions About Share

### GROUP OVERVIEW

Connect with other VA users of the VINCI OMOP common data model.

**Owned by:**  
Abigail Hillard, Michael Matheny, Elizabeth Hanchrow, Stephen Deppen

**Tags:**  
vinci, health data, omop, cdm, cdw

**Group Type:**  
Open

**Created:**  
Dec 18, 2015

### WELCOME TO VINCI OMOPv5

Welcome to the VINCI OMOP User Group. Here you will find information and resources to the VINCI OMOP Common Data Model and Global OMOP/OHDSI.

<https://www.ohdsi.org/data-standardization/the-common-data-model/>

**OBSERVATIONAL MEDICAL OUTCOMES PARTNERSHIP**

### INTRODUCTION TO OBSERVATIONAL MEDICAL OUTCOMES PARTNERSHIP

The OMOP Common Data Model allows for the systematic analysis of disparate observational databases. The concept behind this approach is to transform data contained within those databases into a common format (data model) as well as a common representation (terminologies, vocabularies, coding schemes), and then perform systematic analyses using a library of standard analytic routines that have been written based on the common format.

### NEW? START HERE=>VINCI OMOP CORE DOCUMENTS

- VINCI OMOP Training Slides for New Users\_2018 11 29** by Elizabeth Hanchrow 3 weeks ago
- A Beginner's Guide to Using VINCI OMOP\_2018 10 02** by Elizabeth Hanchrow 2 weeks ago
- TVF\_Specifications\_2018 10 26** by Elizabeth Hanchrow 2 months ago
- VINCI OMOPv5\_DIM and Mapping Table Supplement\_2018 06 26** by Elizabeth Hanchrow 3 months ago
- VINCI OMOPv5\_Database\_Data\_Specifications\_2018 12 03** by Elizabeth Hanchrow 2 weeks ago
- How to Get Access to VINCI OMOP Instructions\_2018 06 26** by Elizabeth Hanchrow 3 months ago
- VINCI OMOPv5\_Executive Summary\_2018 06 27** by Elizabeth Hanchrow 3 months ago

### QUESTIONS?

\*\*\*\*Data collection begins 10/01/1999 and ends 10/06/2017. Next data refresh is planned for January 2019.

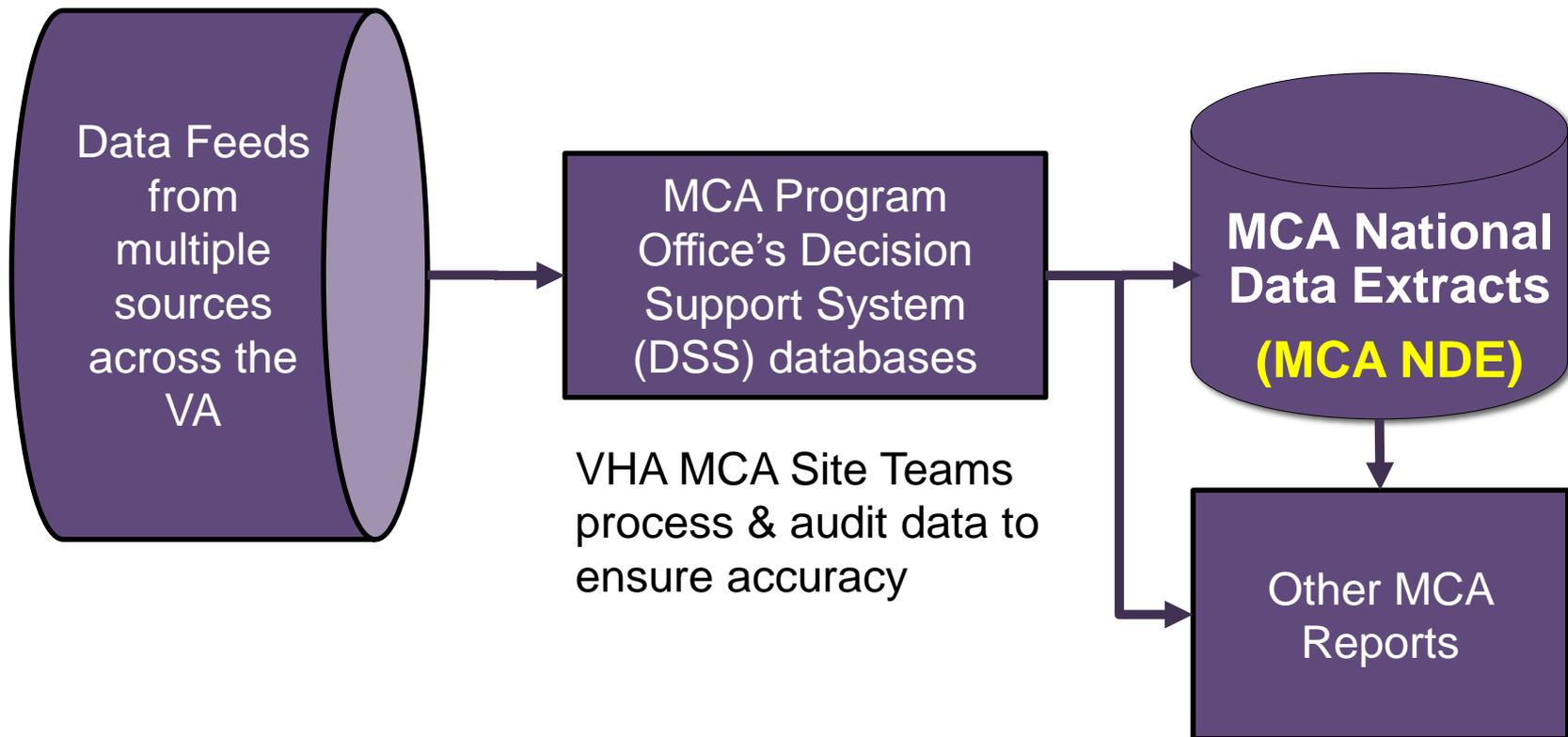
[Frequently Asked Questions](#)

Please contact VINCI OMOP Help Desk Concierge at [VINCI@VA.gov](mailto:VINCI@VA.gov).

\*\*\*Put OMOP in subject line for quicker routing to VINCI OMOP Help Desk Concierge/Informatics Research Nurse \*\*\*

<https://www.vapulse.net/groups/vinci-omop-users-group>  
(Login required; Accounts granted to all VA users upon request.)

# MCA National Data Extracts (MCA NDE)

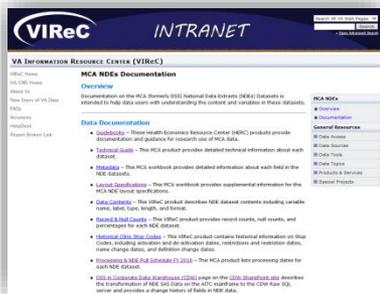


# Example Variables – MCA NDE

Variable	Meaning	Example data
drugdesc	VA Product	HYDROCHLOROTHIAZIDE 25MG
va_class	VA Class	CV701
day_supply	Day of Supply	30
quantity	Total quantity	30
act_cost	Variable & Fixed Product Cost <i>drug price, supplies, &amp; overhead</i>	0.521124
dispcost	Dispensing fee <i>labor cost to process the fill</i>	24.158500
svc_dte	Release date	2015-09-30
fdrkey	VA Product Code & <u>National Drug Code</u>	02068 <u>000172208380</u>
cmop	CMOP indicator	NULL

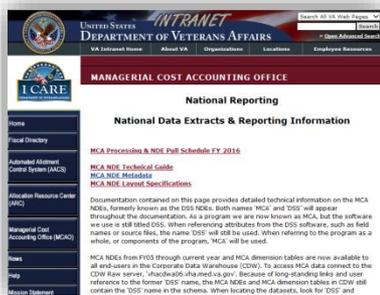
**Total Cost to provide the medication to the patient = act\_cost + dispcost**

# Resources for MCA NDEs



## VIREC MCA NDEs Documentation

<http://vaww.virec.research.va.gov/MedSAS/Documentation.htm>  
(VA Intranet)

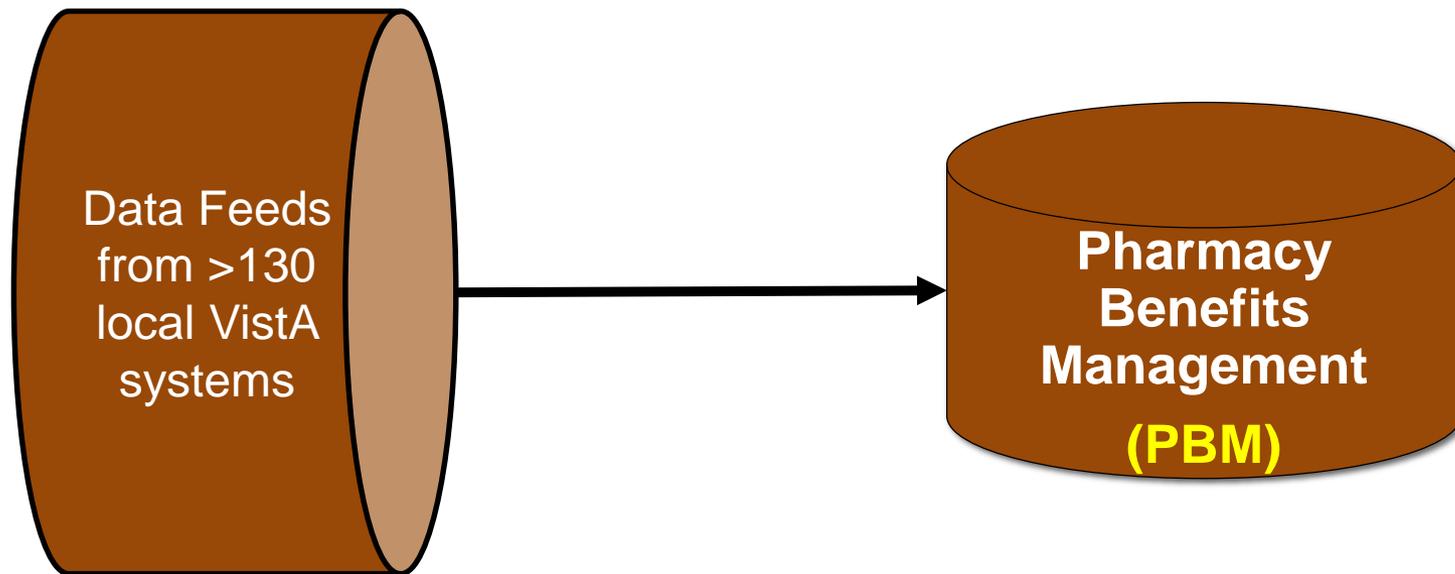


## MCAO National Data Extracts & Reporting Information

[http://vaww.dss.med.va.gov/nationalrptg/nr\\_extracts.asp](http://vaww.dss.med.va.gov/nationalrptg/nr_extracts.asp)  
(VA Intranet)



# Pharmacy Benefits Management (PBM)



## Example Variables: VA Outpatient PBM File

Variable	Meaning	Example data
Va_product	VA Product	DICLOFENAC NA 50MG TAB,EC
Va_class	VA Class	MS102 NONSALICYLATE NSAIs,ANTIRHEUMATIC
generic	Generic name	DICLOFENAC
Sig	Directions of use	TAKE 1 50 MG TABLET ORAL BID TO RELIEVE PAIN
Dsp_unt	Dispensing Unit	TAB
Day_supply	Day of Supply	21
TI_qty	Total quantity	42
Price_dsp	Price per Dispensing Unit	0.151
TI_cost	Drug Price for quantity dispensed	6.342
rel_date	Release date	1/1/2015
NDC	National Drug Code	00228-2550-11
CMOP_IND	CMOP indicator	Y

U.S. Department of Veterans Affairs

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Health Benefits Burials & Memorials About VA Resources Media Room Locations Contact Us

VA » Health Care » Pharmacy Benefits Management Services » VA National Formulary

## Pharmacy Benefits Management Services

- Pharmacy Benefits Management Services
  - PBM Home
  - Clinical Guidance
  - Education and Training
  - Ez Minutes Newsletter
  - Links & Other Resources
  - Drug Prices, Contracts & Agreements
  - VA National Formulary**
    - Formulary Documents
    - Formulary Search
    - VA Center for Medication Safety - VAMedSAFE
    - Academic Detailing Service
    - VA Mail Order Pharmacy

### VA National Formulary

**VA National Formulary Section**

- [VA National Formulary December 2018](#)
- [VA National Formulary by class December 2018](#)
- [VA National Formulary Changes December 2018.](#)

**VA Class Index Section**

- [VA Class Index](#) - Excel Spreadsheet

**Previous Changes to VA National Formulary**

- [VA National Formulary Changes by Month 10-98 TO 12-18](#)
- [VA National Formulary Changes 10-98 TO 12-18](#)

**General Documents**

- [National Drug File Support Group Guidelines](#)
- [National Formulary Frequently Asked Questions](#)
- [Non-Promotable List](#)
- [VA Drug Standardization List](#)

<http://www.pbm.va.gov/PBM/NationalFormulary.asp>  
(VA Intranet)

# Uses of VA Pharmacy Data in Research

**Who?**

**What? When?**

**Where? Why?**



Trends in Medication Use

Cohort Identification

Utilization & Quality

# VHA Pharmacy Data Source Comparison

<b>Who?</b>	 <b>CDW</b>	 <b>OMOP</b>	 <b>MCA NDE</b>	 <b>PBM</b>
Ordering Provider Type	✓	✓	✓	✓
Patient Identifier 	✓	✓	✓	✓

# VHA Pharmacy Data Source Comparison

<b>What?</b>	 <b>CDW</b>	 <b>OMOP</b>	 <b>MCA NDE</b>	 <b>PBM</b>
Generic Drug Name	✓	✓	✓	✓
Days Supply	✓	✓	✓	✓
National Drug Code (NDC)	✓	✓	✓	✓
Directions for Use (SIG)	✓	Link to CDW	✗	✓
Total Cost to Provide Drug to Patient	✗	✗	✓	✗

## Medications Provided by or Paid for by the VHA: Which data source is best?

<b>What?</b>	 <b>CDW</b>	 <b>OMOP</b>	 <b>MCA NDE</b>	 <b>PBM</b>
Medication Administration Time	✓	Link to CDW	✗	✗
Directions for Use (SIG)	✓	Link to CDW	✗	✓
Total Cost to Provide Drug to Patient	✗	✗	✓	✗

# VHA Pharmacy Data Source Comparison

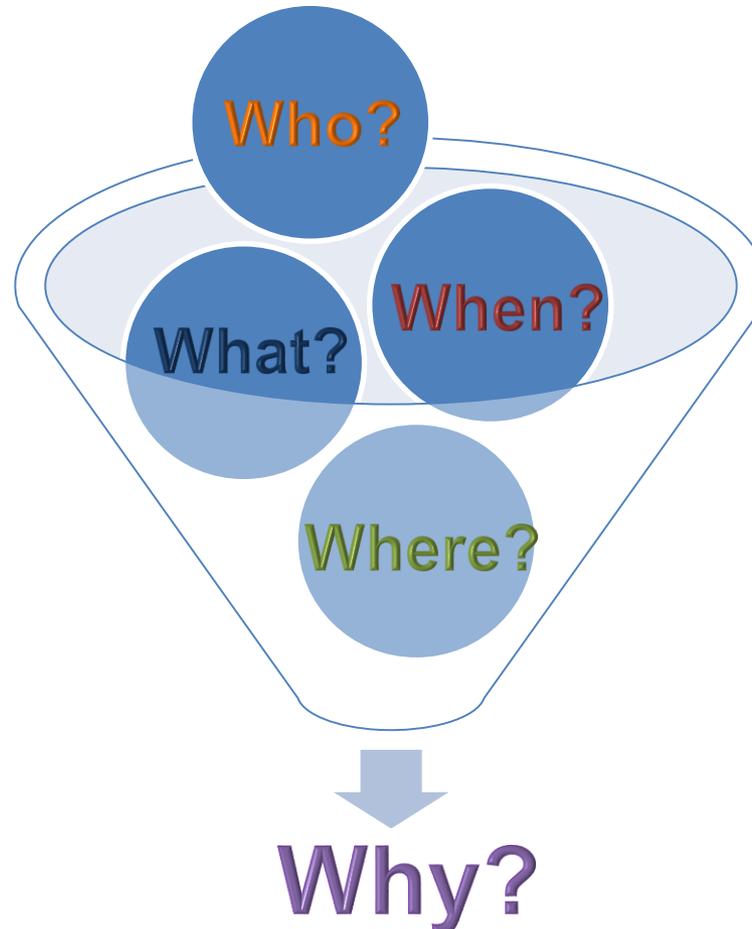
<b>When?</b>	 <b>CDW</b>	 <b>OMOP</b>	 <b>MCA NDE</b>	 <b>PBM</b>
Medication Dispensed	✓	Link to CDW	✓	✓
Medication Returned	✓	Link to CDW	✓	✓
Administration Schedule	✓	Link to CDW	✗	✓
Medication Administered	✓	Link to CDW	✗	✗

# VHA Pharmacy Data Source Comparison

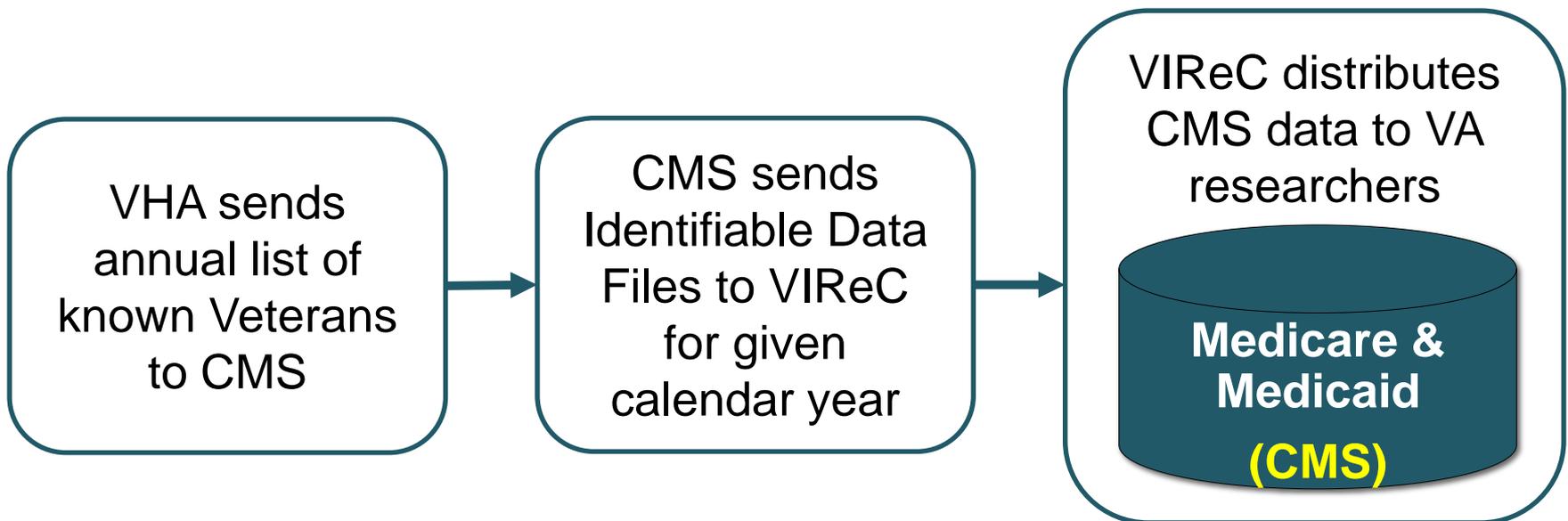
<b>Where?</b>	 <b>CDW</b>	 <b>OMOP</b>	 <b>MCA NDE</b>	 <b>PBM</b>
Consolidated Mail Out Pharmacy (CMOP) flag	✓	Link to CDW	✓	✓
Inpatient or Outpatient Care Setting	✓	✓	✓	✓
Location where patient was served (station)	✓	✓	✓	✓

# VHA Pharmacy Data Source Comparison

<b>Why?</b>	<b>CDW</b>	<b>OMOP</b>	<b>MCA NDE</b>	<b>PBM</b>
Not directly!	✗	✗	✗	✗



# Medicare & Medicaid (CMS)



# Medicare Part D

- Medicare Part D Slim File key variables include:

Variable Name	Meaning	Example data
SRVC_DT	Service date	3-Jul-07
PROD_SRVC_ID	National Drug Code (NDC)	00071015623
QTY_DSPNSD_NUM	Quantity dispensed	30
DAYS_SUPLY_NUM	Days Supply	30
PTNT_PAY_AMT	Patient Payment	29
TOT_RX_CST_AMT	Gross drug Cost	111.11
BN	Brand Name	LIPITOR
GCDF (dosage form)	Dosage form	TA
STR	Drug Strength	20MG
GNN	Generic Name	ATORVASTATIN CALCIUM

The screenshot shows the VIREC Intranet homepage. At the top, there is a search bar for "Search All VA Web Pages" and a "Search" button. Below the header, the main content area is titled "VA INFORMATION RESOURCE CENTER (VIREC)". On the left, there is a navigation menu with links for "VIREC Home", "VA/CMS Home", "About Us", "Updates", "Publications", "Education", "FAQs", and "Help". The main content area features a section for "Part D Slim File" with an "Overview" sub-section. The overview text explains that Medicare offers coverage for prescription drugs under Part D and that beneficiaries can enroll in a Prescription Drug Plan (PDP) or a Medicare Advantage Plan. It also mentions that beneficiaries who have prescription drug coverage from another source, such as employer-based insurance or the VA, may choose not to enroll in Medicare Part D. A link is provided for "Medicare Prescription Drug Coverage (Part D)". Below the overview, there is a section titled "Availability in the VA/CMS Data Repository" which states that the table below provides the description and availability of the Part D Data in the VA/CMS Data Repository. The table has three columns: "Name", "Description", and "Calendar Years Available for Medicare beneficiaries in the VHA Cohort". The table contains one row for "Part D Slim File" with a description of the data and the years 2006-2016. On the right side of the page, there is a "Medicare" sidebar with a list of links: "Overview", "Enrollment, Demographic, & Summary Data", "Parts A & B Claims Data", "Part D Slim file", "Accountable Care Organization (ACO) Data", and "Documentation". Below this is a "General Resources" section with links for "VA/CMS Repository Data", "Non-Repository Data", "Public Use Data", "Cohorts & Identifiers", "Requests", and "Current Data Users".

**VIREC** INTRANET

Search All VA Web Pages   [Open Advanced Search](#)

**VA INFORMATION RESOURCE CENTER (VIREC)**

VIREC Home  
VA/CMS Home  
About Us  
Updates  
Publications  
Education  
FAQs  
Help

**Part D Slim File**

**Overview**

Medicare offers coverage for prescription drugs under Part D. Medicare beneficiaries have two options for coverage. They can enroll in a Prescription Drug Plan (PDP) to supplement fee-for-service Medicare or enroll in a Medicare Advantage Plan that provides prescription drug coverage (also called MA-PD). Beneficiaries who have prescription drug coverage from another source, such as employer based insurance or the VA, may choose not to enroll in Medicare Part D. Visit Medicare.gov's "[Medicare Prescription Drug Coverage \(Part D\)](#)" page for more information about Medicare Part D.

When a Medicare beneficiary fills a prescription under Medicare Part D (through a PDP or MA-PD), the prescription drug plan sponsor (insurance company) submits Part D Prescription Drug Event (PDE) data to CMS. CMS also collects information on Medicare Part D plans, prescribers, pharmacies, and drugs.

**Availability in the VA/CMS Data Repository**

The table below provides the description and availability of the Part D Data in the VA/CMS Data Repository.

Name	Description	Calendar Years Available for Medicare beneficiaries in the VHA Cohort
Part D Slim File	Select variables from the Medicare Prescription Drug Event (PDE) data. It includes the variables from the Drug Characteristics file. It is not linkable to the other Part D characteristics data (Formulary, Prescriber, Plan, or Pharmacy).	2006-2016

**Medicare**

- Overview
- Enrollment, Demographic, & Summary Data
- Parts A & B Claims Data
- Part D Slim file
- Accountable Care Organization (ACO) Data
- Documentation

**General Resources**

- VA/CMS Repository Data
- Non-Repository Data
- Public Use Data
- Cohorts & Identifiers
- Requests
- Current Data Users

<http://vaww.virec.research.va.gov/VACMS/Medicare/PartDSlimFile.htm>

(VA Intranet)

# Today's Topics

- Introduction
- Commonly used pharmacy data sources
- In-depth example of pharmacy research using VA data
- Resources

# How has VA Pharmacy Data been used in Research?

## Trends in Medication Use

- Which medications are being used to treat a given condition?
- How has use changed over time?
  - Impact of policy change?

## Utilization and Quality

- How does VA perform on process-based quality measures related to medication management?
  - Are medications being prescribed appropriately?
  - What is the adherence to therapy for a given medication?

## Cohort Identification

- Which patients are taking a given medication?

## Drug Safety and Outcomes



# Receipt of Overlapping Opioid and Benzodiazepine Prescriptions Among Veterans Dually Enrolled in Medicare Part D and the Department of Veterans Affairs

## A Cross-sectional Study

Ron Carico, PharmD, MPH; Xinhua Zhao, PhD; Carolyn T. Thorpe, PhD, MPH; Joshua M. Thorpe, PhD, MPH; Florentina E. Sileanu, MS; John P. Cashy, PhD; Jennifer A. Hale, BA; Maria K. Mor, PhD; Thomas R. Radomski, MD, MS; Leslie R.M. Hausmann, PhD; Julie M. Donohue, PhD; Katie J. Suda, PharmD, MS; Kevin Stroupe, PhD; Joseph T. Hanlon, PharmD, MS; Chester B. Good, MD, MPH; Michael J. Fine, MD, MSc; and Walid F. Gellad, MD, MPH

**Background:** Overlapping use of opioids and benzodiazepines is associated with increased risk for overdose. Veterans receiving medications concurrently from the U.S. Department of Veterans Affairs (VA) and Medicare may be at higher risk for such overlap.

**Objective:** To assess the association between dual use of VA and Medicare drug benefits and receipt of overlapping opioid and benzodiazepine prescriptions.

**Design:** Cross-sectional.

**Setting:** VA and Medicare.

**Participants:** All veterans enrolled in VA and Medicare Part D who filled at least 2 opioid prescriptions in 2013 ( $n = 368\ 891$ ).

**Measurements:** Outcomes were the proportion of patients with a Pharmacy Quality Alliance (PQA) measure of opioid-benzodiazepine overlap ( $\geq 2$  filled prescriptions for benzodiazepines with  $\geq 30$  days of overlap with opioids) and the proportion of patients with high-dose opioid-benzodiazepine overlap ( $\geq 30$  days of overlap with a daily opioid dose  $> 120$  morphine milligram equivalents). Augmented inverse probability weighting regression was used to compare these measures by prescription drug source: VA only, Medicare only, or VA and Medicare (dual use).

**Results:** Of 368 891 eligible veterans, 18.3% received prescriptions from the VA only, 30.3% from Medicare only, and 51.4% from both VA and Medicare. The proportion with PQA opioid-benzodiazepine overlap was larger for the dual-use group than the VA-only group (23.1% vs. 17.3%; adjusted risk ratio [aRR], 1.27 [95% CI, 1.24 to 1.30]) and Medicare-only group (23.1% vs. 16.5%; aRR, 1.12 [CI, 1.10 to 1.14]). The proportion with high-dose overlap was also larger for the dual-use group than the VA-only group (4.7% vs. 2.3%; aRR, 2.23 [CI, 2.10 to 2.36]) and Medicare-only group (4.7% vs. 2.9%; aRR, 1.06 [CI, 1.02 to 1.11]).

**Limitation:** Data are from 2013 and cannot capture medications purchased without insurance; unmeasured confounding may remain in this cross-sectional study.

**Conclusion:** Among a national cohort of veterans dually enrolled in VA and Medicare, receiving prescriptions from both sources was associated with greater risk for receiving potentially unsafe overlapping prescriptions for opioids and benzodiazepines.

**Primary Funding Source:** U.S. Department of Veterans Affairs.

*Ann Intern Med.* doi:10.7326/M18-0852

For author affiliations, see end of text.

This article was published at [Annals.org](https://annals.org) on 9 October 2018.

[Annals.org](https://annals.org)

**Objective:** To assess the association between dual use of VA and Medicare drug benefits and receipt of overlapping opioid and benzodiazepine prescriptions

## How Was Pharmacy Data Used?

- Cohort construction: Opioid recipients dually enrolled in both VA and Medicare
  - PBM opioid
  - Part D opioid
- Overlapping benzodiazepines
  - PBM benzodiazepine
  - Part D benzodiazepine
- Identify medications primarily in PBM and Part D

**Headache!**

## Step 1: Identify Opioid Recipients in PBM and Part D

- PBM: use VA generic names
- Part D: use Part D generic names and NDC codes from Medispan

# Step 2: Create **Drug File** of All Drugs in PBM and Part D (Match Part D codes (95.2%)) to VA Formulary)

- Match Part D codes (95.2%)

- Match **Benefits**
  - Use VA
  - Perform
  - Calcula
  - Do drug
  - Identify

Alphabetic List of Variables and Attributes				
#	Variable	Type	Len	Format
22	CSFS	Char	31	\$31.
26	DISP_UNT	Char	10	\$10.
20	DOSE_FORM	Char	30	\$30.
11	FEEDER	Char	27	\$27.
12	GENERIC	Char	64	\$64.
27	ID	Char	5	\$5.
6	I_DATE_NDC	Char	11	\$11.
9	I_DATE_VAP	Char	16	\$16.
16	MANUFAC	Char	25	\$25.
28	MARK	Char	11	\$11.
1	NDC_1	Char	150	\$150.
2	NDC_2	Char	15	\$15.
3	NDC_3	Char	7	\$7.
4	NDF_NDC	Char	8	\$8.
24	NF_INDICAT	Char	1	\$1.
21	NF_NAME	Char	79	\$79.
13	PKG_SZ	Char	13	\$13.
14	PKG_TYPE	Char	25	\$25.
10	PRODUCT_NU	Char	13	\$13.
23	RX_OTC	Char	21	\$21.
17	STANDARD_MED_ROUTE	Char	14	\$14.
18	STRENGTH	Char	38	\$38.
7	TRADE	Char	40	\$40.
19	UNITS	Char	16	\$16.
5	UPN	Char	14	\$14.
25	VA_PRN	Char	41	\$41.
8	VA_PRODUCT	Char	64	\$64.
30	va_class	Char	73	\$73.
15	va_class_chr	Char	64	\$64.
29	va_class_num	Char	5	\$5.

Drug File using **NDC**

comorbidity adjustment equivalents

## Step 3: Identify Opioids in PBM and Part D

- Search the PBM generic field for strings containing the following names:

- |                   |                  |
|-------------------|------------------|
| 1. Alfentanil     | 15. Morphine     |
| 2. Alphaprodine   | 16. Nalbuphine   |
| 3. Buprenorphine  | 17. Opium        |
| 4. Butorphanol    | 18. Oxycodone    |
| 5. Codeine        | 19. Oxymorphone  |
| 6. Dezocine       | 20. Pentazocine  |
| 7. Dihydrocodeine | 21. Propoxyphene |
| 8. Fentanyl       | 22. Remifentanil |
| 9. Hydrocodone    | 23. Sufentanil   |
| 10. Hydromorphone | 24. Tapentadol   |
| 11. Levomethadyl  | 25. Tramadol     |
| 12. Levorphanol   | 26. Paregoric    |
| 13. Meperidine    | 27. Opioid       |
| 14. Methadone     |                  |

# Identify Opioids in PBM

All prescriptions containing oxycodone

VA PRODUCT		VA GENERIC	VA PRODUCT	VA GENERIC
OXYCODONE HCL 10MG/ACETAMINOPHEN 325MG TAB		ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL 10MG TAB,SA	OXYCODONE
OXYCODONE HCL 10MG/ACETAMINOPHEN 400MG TAB		ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL 10MG TAB,SA,UD	OXYCODONE
OXYCODONE HCL 10MG/ACETAMINOPHEN 650MG		ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL 15MG TAB	OXYCODONE
OXYCODONE HCL 2.5MG/ACETAMINOPHEN 325MG		ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL 15MG TAB,SA	OXYCODONE
OXYCODONE HCL 2.5MG/ACETAMINOPHEN 400MG		ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL 20MG TAB	OXYCODONE
OXYCODONE HCL 5MG/ACETAMINOPHEN 300MG TAB		ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL 20MG TAB,SA	OXYCODONE
OXYCODONE HCL 5MG/ACETAMINOPHEN 325MG CAP		ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL 20MG TAB,SA,UD	OXYCODONE
OXYCODON			B	OXYCODONE
OXYCODON	<b>NDC</b>	<b>VA_PRODUCT</b>	B,SA	OXYCODONE
OXYCODON			B,SA	OXYCODONE
OXYCODON			B,SA,UD	OXYCODONE
OXYCODON				OXYCODONE
OXYCODON				OXYCODONE
OXYCODON			UD	OXYCODONE
OXYCODON			SOLN,ORAL	OXYCODONE
OXYCODONE HCL 7.5MG/ACETAMINOPHEN 400MG TAB		ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL 60MG TAB,SA	OXYCODONE
OXYCODONE HCL 7.5MG/ACETAMINOPHEN 500MG TAB		ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL 7.5MG TAB	OXYCODONE
OXYCODONE HCL 4.5MG/OXYCODONE TEREPH 0.38MG/ASA 325MG TAB		ASPIRIN/OXYCODONE	OXYCODONE HCL 80MG TAB,SA	OXYCODONE
OXYCODONE HCL 4.8355MG/ASPIRIN 325M		ASPIRIN/OXYCODONE	OXYCODONE HCL 5MG/IBUPROFEN 400MG TAB	OXYCODONE/IBUPROFEN
OXYCODONE CONCENTRATED 20MG/ML ORAL,SOLN		OXYCODONE		

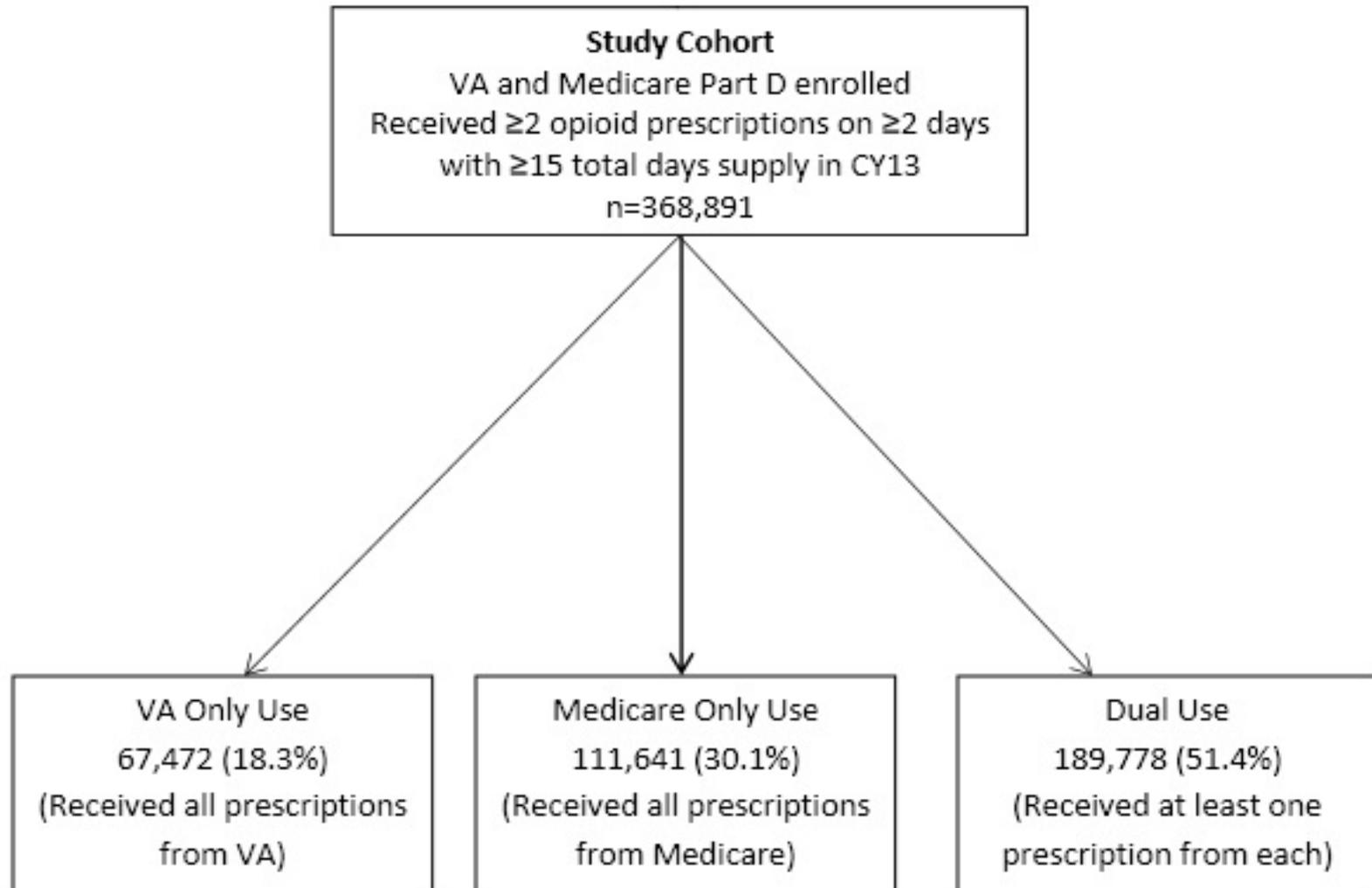
# Identify Opioids in Part D

## Part D data matched to VA Formulary:

VA_PRODUCT	GENERIC	GNN (Generic Name)	Match Method	Count
OXYCODONE HCL 5MG/ACETAMINOPHEN 325MG TAB	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	GNN_GCDF	5
OXYCODONE HCL 10MG/ACETAMINOPHEN 325MG TAB	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	189684
OXYCODONE HCL 10MG/ACETAMINOPHEN 400MG TAB	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	16
OXYCODONE HCL 10MG/ACETAMINOPHEN 650MG TAB	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	15407
OXYCODONE HCL 2.5MG/ACETAMINOPHEN 325MG TAB	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	813
OXYCODONE HCL 5MG/ACETAMINOPHEN 325MG CAP	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	85635
OXYCODONE HCL 5MG/ACETAMINOPHEN 325MG TAB	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	218519
OXYCODONE HCL 5MG/ACETAMINOPHEN 325MG/5ML SOLN,ORAL	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	1061
OXYCODONE HCL 5MG/ACETAMINOPHEN 500MG CAP	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	3986
OXYCODONE HCL 7.5MG/ACETAMINOPHEN 300MG TAB	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	2
OXYCODONE HCL 7.5MG/ACETAMINOPHEN 325MG TAB	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	53465
OXYCODONE HCL 7.5MG/ACETAMINOPHEN 500MG TAB	ACETAMINOPHEN/OXYCODONE	OXYCODONE HCL/ACETAMINOPHEN	NDC	8169
OXYCODONE HCL 4.8355MG/ASPIRIN 325MG TAB	ASPIRIN/OXYCODONE	OXYCODONE HCL/ASPIRIN	NDC	1076
OXYCODONE HCL 4.5MG/OXYCODONE TEREPH 0.38MG/ASA 325MG TAB	ASPIRIN/OXYCODONE	OXYCODONE HCL/OXYCODON TER/ASA	NDC	3
OXYCODONE HCL 5MG TAB	OXYCODONE	OXYCODONE HCL	GNN_GCDF	7
OXYCODONE HCL 15MG TAB	OXYCODONE	OXYCODONE HCL	GNN_GCDF_STR	2025
OXYCODONE HCL 30MG TAB	OXYCODONE	OXYCODONE HCL	GNN_GCDF_STR	2065
OXYCODONE CONCENTRATED 20MG/ML ORAL,SOLN	OXYCODONE	OXYCODONE HCL	NDC	1603
OXYCODONE HCL 10MG TAB	OXYCODONE	OXYCODONE HCL	NDC	50117
OXYCODONE HCL 10MG TAB,SA	OXYCODONE	OXYCODONE HCL	NDC	24778
OXYCODONE HCL 15MG TAB	OXYCODONE	OXYCODONE HCL	NDC	67013
OXYCODONE HCL 15MG TAB,SA	OXYCODONE	OXYCODONE HCL	NDC	4629
OXYCODONE HCL 20MG TAB	OXYCODONE	OXYCODONE HCL	NDC	9790
OXYCODONE HCL 20MG TAB,SA	OXYCODONE	OXYCODONE HCL	NDC	28171
OXYCODONE HCL 20MG TAB,SA,UD	OXYCODONE	OXYCODONE HCL	NDC	131
OXYCODONE HCL 30MG TAB	OXYCODONE	OXYCODONE HCL	NDC	83105
OXYCODONE HCL 30MG TAB,SA	OXYCODONE	OXYCODONE HCL	NDC	11566
OXYCODONE HCL 40MG TAB,SA	OXYCODONE	OXYCODONE HCL	NDC	22413
OXYCODONE HCL 5MG CAP	OXYCODONE	OXYCODONE HCL	NDC	2887
OXYCODONE HCL 5MG TAB	OXYCODONE	OXYCODONE HCL	NDC	127061
OXYCODONE HCL 5MG TAB,UD	OXYCODONE	OXYCODONE HCL	NDC	1273
OXYCODONE HCL 5MG/5ML SOLN,ORAL	OXYCODONE	OXYCODONE HCL	NDC	1575
OXYCODONE HCL 60MG TAB,SA	OXYCODONE	OXYCODONE HCL	NDC	9145
OXYCODONE HCL 80MG TAB,SA	OXYCODONE	OXYCODONE HCL	NDC	18350
OXYCODONE HCL 5MG/IBUPROFEN 400MG TAB	OXYCODONE/IBUPROFEN	IBUPROFEN/OXYCODONE HCL	NDC	37

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# Cohort



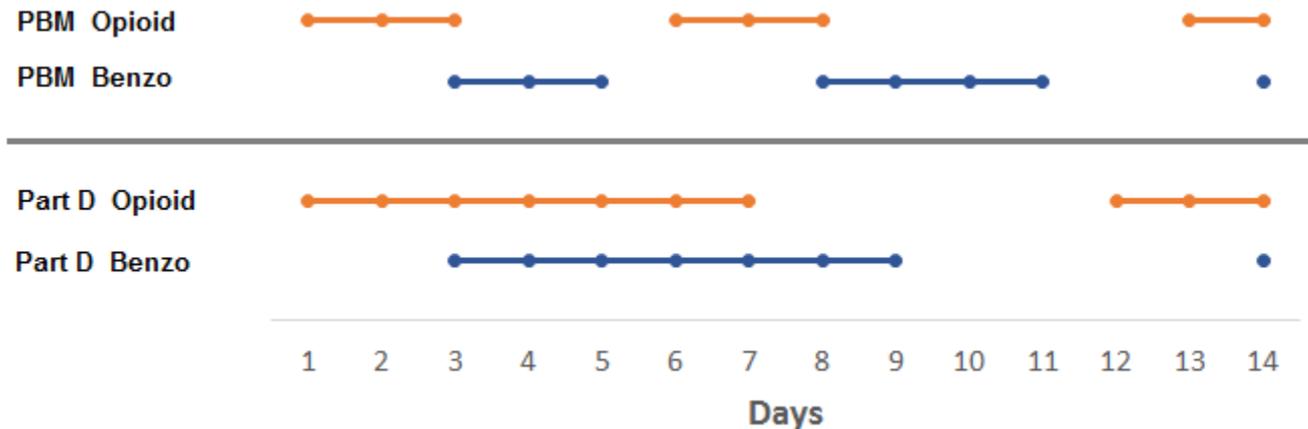
## Identify Benzodiazepines in PBM and Part D

- Search the VA generic field for strings containing the following names:
  1. Alprazolam
  2. Chlordiazepoxide
  3. Clobazam
  4. Clonazepam
  5. Clorazepate
  6. Diazepam
  7. Estazolam
  8. Flurazepam
  9. Halazepam
  10. Lorazepam
  11. Midazolam
  12. Oxazepam
  13. Prazepam
  14. Quazepam
  15. Temazepam
  16. Triazolam
  17. Benzodiazepines

# Outcome: Dual use and Opioid/Benzodiazepine Overlap

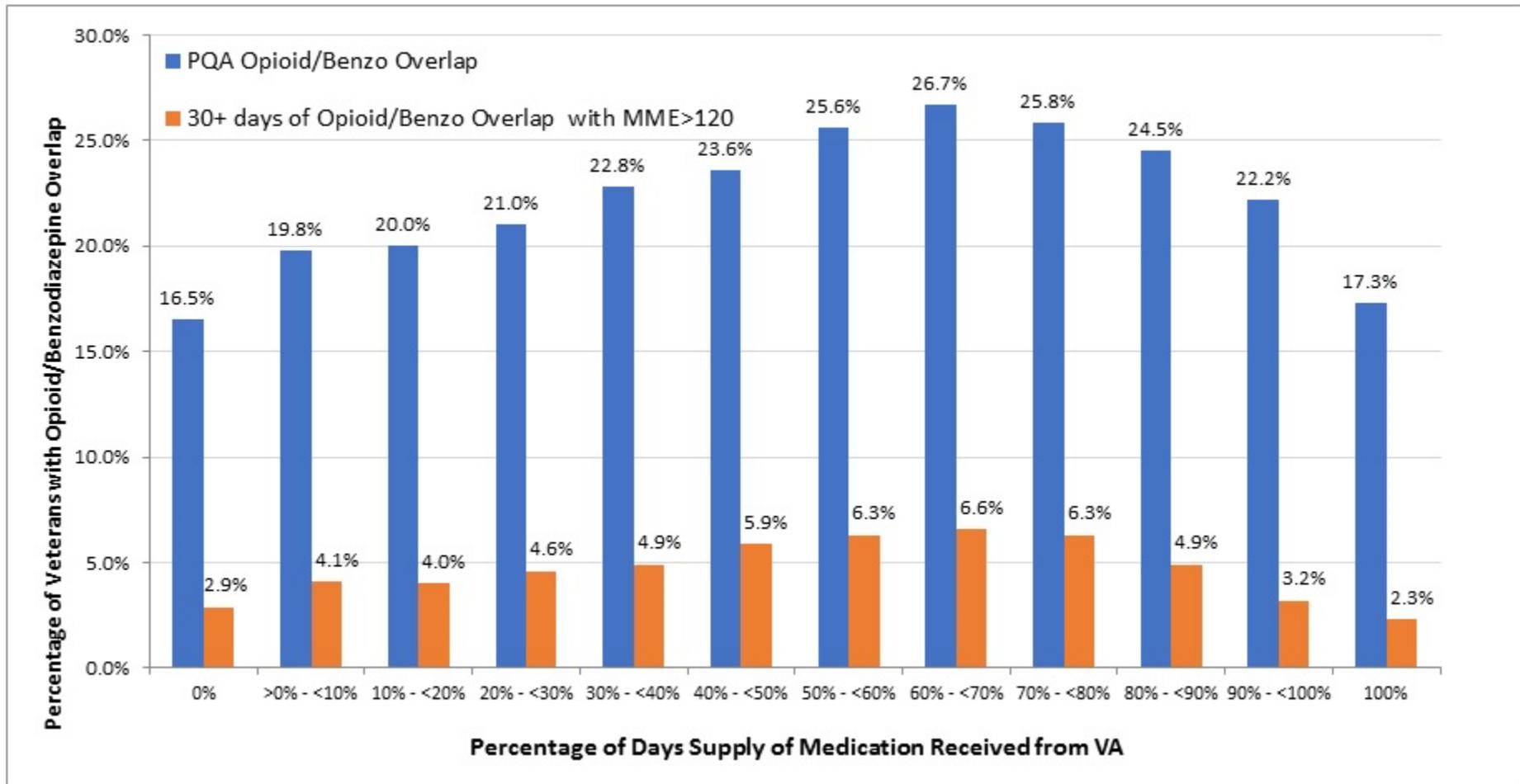
- How to define overlap with PBM and Part D data

**Headache!**



# Outcome: Dual use and Opioid/Benzodiazepine Overlap

**Figure 2.** The Percentage of Veterans with Opioid/Benzodiazepine Overlap by the Percent of Days Supply of Medications Obtained from VA



# Today's Topics

- Introduction
- Commonly used pharmacy data sources
- In-depth example of pharmacy research using VA data
- **Resources**

The screenshot shows the VIREC INTRANET website. At the top left is the VIREC logo, and at the top right is a search bar with the text "Search All VA Web Pages" and a "Search" button. Below the header is a navigation menu with the following items: VIREC Home, About Us, VA/CMS Data for Research, VHA Data Portal, New Users of VA Data, FAQs, Acronyms, HelpDesk, Report Broken Link, and How are we doing? The main content area is titled "Pharmacy Overview" and contains the following text:

**Pharmacy Overview**

Pharmacy data are available from multiple sources within the VA, including VA's Managerial Cost Accounting (MCA) System (formerly Decision Support System or DSS), Pharmacy Benefits Management (PBM), and Corporate Data Warehouse (CDW). VistA is the pharmacy data source for MCA, PBM, and CDW data.

VIREC's cyberseminar on [Examining Veterans' Pharmacy Use with VA and Medicare Pharmacy Data](#) by Walid Gellad, MD, MPH describes the use of pharmacy data in research.

**PHA MCA NDE**

The Pharmacy Managerial Cost Accounting National Data Extract (PHAMCANDE) contains pharmacy cost and workload data from FY2005 through the current year. The PHANDE comprises 55 data elements organized in the DSS.PHA table on the VHA Corporate Data Warehouse (CDW) Raw Server.

VIREC's [guide to the PHAMCANDE](#) provides a detailed description of pharmacy dispensing and medication return data currently available in the PHANDE. Visit the "[MCA NDEs Documentation](#)" page for more information about the PHAMCANDE.

**CDW**

The CDW is a national repository comprising data from VistA and several other VHA clinical and administrative systems. CDW data are organized into domains. CDW pharmacy data are in the Pharmacy, Outpatient domain. More information about the CDW is available from VIREC's "[CDW](#)" page.

**PBM**

The PBM database is a national database containing records for prescriptions dispensed in the VHA, including VHA's Consolidated Mail Outpatient Pharmacy. More information about the PBM database is available from VIREC's "[PBM Database](#)" page.

On the right side of the page, there is a "General Resources" menu with the following items: Data Access, Data Sources, Data Tools, Data Topics, Products & Services, and Special Projects.

<http://vaww.virec.research.va.gov/Pharmacy/Overview.htm>

(VA Intranet)

# VIReC Pharmacy Data Resources



**VIReC RESEARCH USER GUIDE**  
VHA PHARMACY PRESCRIPTION DATA  
2<sup>nd</sup> Edition

## VIReC Research User Guide: VHA Pharmacy Prescription

<http://vaww.virec.research.va.gov/RUGs/Pharmacy/RUG-Pharmacy-2nd-Ed-CY08-RA.pdf>  
(VA Intranet)

Factbook

**VIReC Factbook**  
Corporate Data Warehouse (CDW)  
Pharmacy Patient 1.0 Domain  
October 2016

## VIReC Factbook: CDW Pharmacy Patient 1.0 Domain

<http://vaww.virec.research.va.gov/CDW/Factbook/FB-CDW-Pharmacy-Patient-Domain.pdf>  
(VA Intranet)

Factbook

**VIReC Factbook**  
Corporate Data Warehouse (CDW)  
Non-VA Meds 1.0 Domain  
Updated: February 2016

## VIReC Factbook: CDW Non-VA Meds 1.0 Domain

<http://vaww.virec.research.va.gov/CDW/Factbook/FB-CDW-Non-VA-Meds-Domain.pdf>  
(VA Intranet)

# VHA Data Portal

<http://vaww.vhadataportal.med.va.gov/Home.aspx>  
(VA Intranet)

**Data Sources**

- Data Sources Overview
- ADUSH Enrollment File
- AITC Mainframe
- BIRLS Death File
- CDW**
- HERC Cost Data
- Homeless Registry
- MCA (formerly DSS) NDEs
- MCA (formerly DSS) Web Reports
- Medical SAS Inpatient & Outpatient Data Sets
- NPCD
- OEF/OIF/OND Roster
- PACT Implementation Index (Pi2)
- PSSG Geocoded Enrollee Files
- PTF
- VACMS Data
- VETSNET
- Vital Status File
- VSSC Web Reports

[Home](#) | [About Us](#) | [Contact Us](#) | [FAQ](#) | [Report Broken Link](#)



Department of Veterans Affairs  
**VHA Data Portal**

Data Sources | Data Access | Tools & Applications | Resources | Training | Policy & Admin | Support

## Welcome to the VHA Data Portal

The VHA Data Portal promotes a knowledge-sharing culture that supports the needs of VHA data users. The Portal integrates information from multiple sources into a single location to promote a comprehensive knowledge base and to facilitate a positive end-user experience.

**The one-stop-shop for data users' needs.**

Our home page design has recently changed to help get you the information you need. Each one of the badges below links to access information and other relevant resources for a particular data use need, or use the new top navigation menu to locate resources by category. Tell us what you think.



**New Data User**



**Research**



**Operations & Quality Improvement**



**Access Policy & Administrative Tools**



**Quick Links Library**

### Upcoming Events

**VIREC Cyberseminars**

- Dec 20:** Partnering with Health Systems Leadership to Develop a Randomized, Controlled Implementation Trial  
(Bauer, M | Weaver, K)
- Jan 9:** Measuring Veterans' Medicare Health Services Use  
(de Groot, K)
- Jan 24:** PROVE (PeRsonalizing Options through Veteran Engagement) QUERI  
(Damschroder, L | Kelley, C | Davis, J)
- Feb 6:** Measuring & Assessing Outpatient Care  
(Hynes, D)

**VINCI Cyberseminar**

- Dec. 8:** Getting Started with VA OMOP Data (DuVall, S)

**VINCI Happy Hour**

**3rd Wednesday Every Month at 3 PM ET**  
VINCI in its continuing efforts to assist VHA data users will be holding its VINCI Happy Hour open question and answer forum every 3rd Wednesday of the month from 3:00PM to 4:00PM ET to field questions from our customers on a range of topics. Click here to join the Lync meeting and call 855-787-1051 code 22265884.

### News

**Data Management and Access Plan (DMAP)**

Effective January 1, 2016, all applications for VA-ORD funding are required to include a Data Management and Access Plan (DMAP) in the proposal. Applicants are encouraged to work with the local VA research office in order to describe the DMAP in an application, and for implementation of the plan. The DMAP will be evaluated as an unscored element in the scientific peer review, and any issues will be addressed administratively.

**VistAWeb Access for Medical Advisory Opinions**

As of July 1, 2016, access to VistAWeb for Medical Advisory Opinions (MAO) reviews do not expire after 60 days. Access will also be granted nationally to all VistA systems.

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# How do I request access to the data?

- Visit the VHA Data portal and click on the “Data Access” tab to learn more about the process
  - <http://vaww.vhadataportal.med.va.gov/DataAccess/ResearchAccess.aspx> (Intranet only)
- Watch the archived presentation by Linda Kok on “Requesting Access to VA Data”
  - [https://www.hsrd.research.va.gov/for\\_researchers/cyber\\_seminars/archives/video\\_archive.cfm?SessionID=3540](https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=3540) (Intranet only)



# VIReC Options for Specific Questions

## HSRData Listserv

- Community knowledge sharing
- ~1,400 VA data users
- Researchers, operations, data stewards, managers
- Subscribe by visiting <http://vaww.virec.research.va.gov/Support/HSRData-L.htm> (VA Intranet)



## HelpDesk

- Individualized support



[virec@va.gov](mailto:virec@va.gov)

(708) 202-2413

# Contact information

## **Walid Gellad, MD, MPH**

CHERP Core Investigator

Staff Physician, VA Pittsburgh Healthcare System

Associate Professor, University of Pittsburgh

[Walid.Gellad@va.gov](mailto:Walid.Gellad@va.gov)

## **Bonnie Paris, PhD**

Data Knowledge Analyst, VIREC

[Bonnie.Paris@va.gov](mailto:Bonnie.Paris@va.gov)

## **VA Information Resource Center**

Hines VA Hospital

[virec@va.gov](mailto:virec@va.gov)

708-202-2413



**Next session:  
February 4, 2019**



## Database & Methods Cyberseminar Series

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Ascertaining Veterans' Vital Status: Data Sources for  
Mortality Ascertainment and Cause of Death

*Charles Maynard, PhD*

*Denver Seattle Center of Innovation*