

FY24 Session 3:

Using CMS data to study COVID-19 in Veterans

April 9, 2024





Kristin de Groot, MPH
Project Director, VA/CMS Data for Research Project
VA Information Resource Center (VIReC)



CMS DATA CYBERSEMINAR MINISERIES

Miniseries about the research use of data from Centers for Medicare and Medicaid Services (CMS), which provides information on healthcare Veterans received outside the VA.

Sessions Cover...

- Overview of the types of data available from VIReC
- Methods for using the data in research
- Limitations of the data
- Requirements for access
- Examples of VA research that use these data





UPCOMING CMS DATA SESSIONS

2nd Tuesday of the month (quarterly) 3:00pm-4:00pm ET

Date	Topic	
7/9/2024	Medicare Data in the OMOP Common Data Model	

Visit the

VIReC Cyberseminars

page for more
information & registration
links.

Visit <u>HSR's VIReC</u>

<u>Cyberseminar Archive</u>

page to watch previous sessions.

Where can I download a copy of the slides?



SAMPLE EMAIL

Host: HSR&D Cyberseminars (cyberseminar@va.gov)

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https://www.webex.com/pdf/tollfree_restrictions.pdf

Access code: 199 009 5117

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Please click here for today's live captions

Poll #1:

What is your primary **role** in projects using VA data?

- Investigator, PI, Co-I
- Statistician, methodologist, biostatistician
- Data manager, analyst, or programmer
- Project coordinator
- Other please describe via the chat function



Poll #2:

How many years of experience working with VA data?

- None I'm brand new to this!
- One year or less
- More than 1, less than 3 years
- At least 3, less than 7 years
- At least 7, less than 10 years
- 10 years or more



Poll #3:

Are you involved in a research project studying Veterans with COVID-19?

- Yes (currently)
- No, but will be soon
- No, but might be in the future



Poll #4:

How would you rate your overall knowledge of CMS data?

- 1 (No knowledge)
- 2
- 3
- 4
- 5 (Expert-level knowledge)





CMS DATA MINI-SERIES

FY24 Session 3:

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Why is it important to include data from the Centers for Medicare and Medicaid Services (CMS)?

1 million

Veterans diagnosed with COVID-19 through CMS and not in VHA data (through June 2023)

34,000

Medicare hospitalizations among Veterans, within 60 days of testing positive for COVID-19 in VA facility (through December 2022)

1.7 million

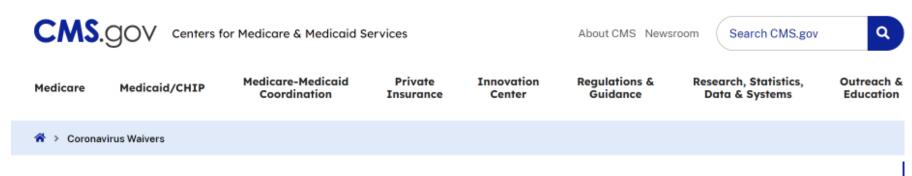
Veterans who received COVID-19 vaccine(s) through CMS, that have not reported it to VA (through June 2023)



Difference due to COVID-19

Indicates a change from what we normally find in CMS data





Coronavirus waivers & flexibilities

In certain circumstances, the Secretary of the Department of Health and Human Services (HHS) using section 1135 of the Social Security Act (SSA) can temporarily modify or waive certain Medicare, Medicaid, CHIP, or HIPAA requirements, called 1135 waivers. There are different kinds of 1135 waivers, including Medicare blanket waivers. When there's an emergency, sections 1135 or 1812(f) of the SSA allow us to issue blanket waivers to help beneficiaries access care. When a blanket waiver is issued, providers don't have to apply for an individual 1135 waiver. When there's an emergency, we can also offer health care providers other flexibilities to make sure Americans continue to have access to the health care they need.

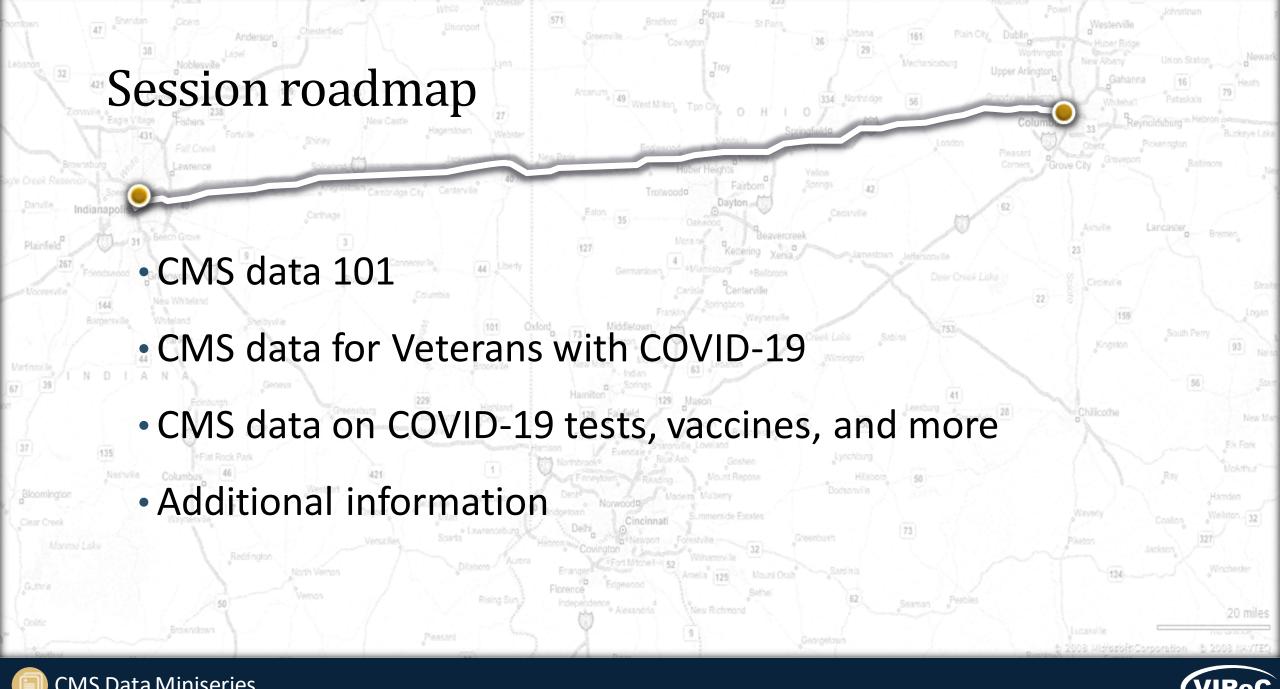
https://www.cms.gov/about-cms/emergency-preparedness-response-operations/current-emergencies/coronavirus-waivers



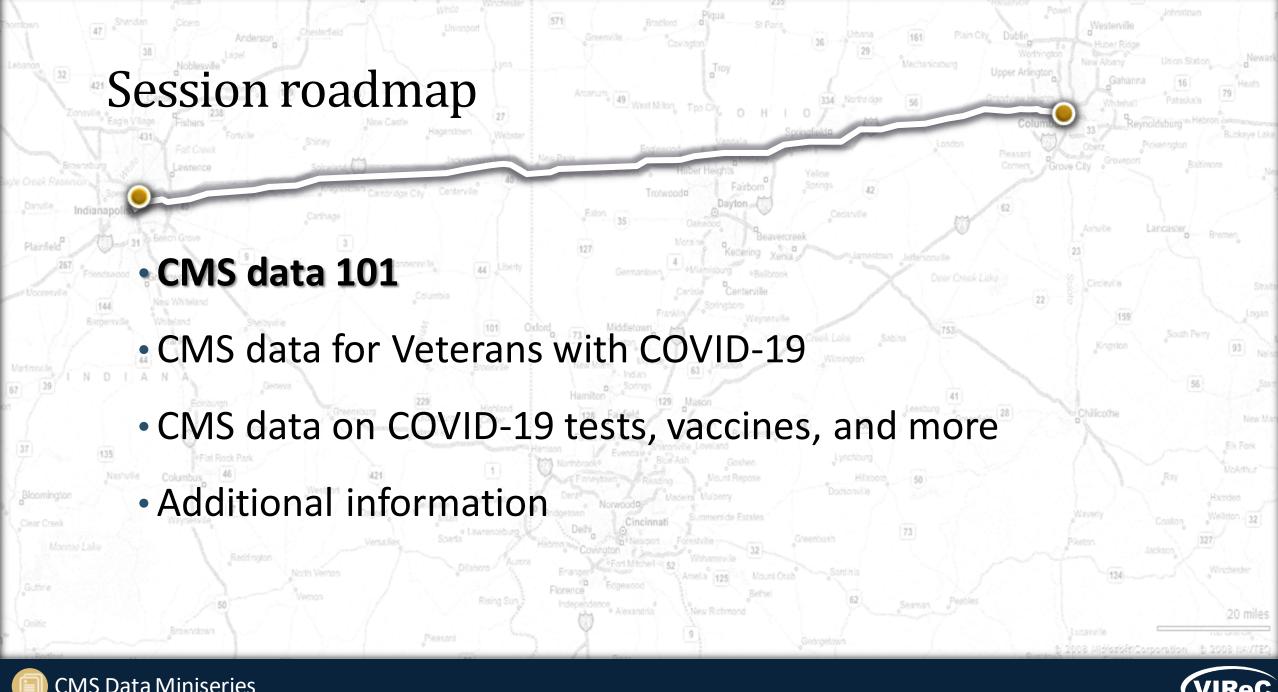
Returning to "normal"

- CMS Waivers, Flexibilities, and the Transition Forward from the COVID-19 Public Health Emergency
 - https://www.cms.gov/newsroom/fact-sheets/cms-waivers-flexibilities-and-transition-forward-covid-19-public-health-emergency
- Fact Sheet: COVID-19 Public Health Emergency Transition Roadmap
 - https://www.hhs.gov/about/news/2023/02/09/fact-sheet-covid-19-public-health-emergency-transition-roadmap.html
- Unwinding and Returning to Regular Operations after COVID-19
 - https://www.medicaid.gov/resources-for-states/coronavirus-disease-2019-covid-19/unwinding-and-returning-regular-operations-after-covid-19/index.html
- Timeline of End Dates for Key Health-Related Flexibilities Provided Through COVID-19 Emergency Declarations, Legislation, and Administrative Actions
 - https://www.kff.org/coronavirus-covid-19/issue-brief/timeline-of-end-dates-for-key-health-related-flexibilities-provided-through-covid-19-emergency-declarations-legislation-and-administrative-actions/













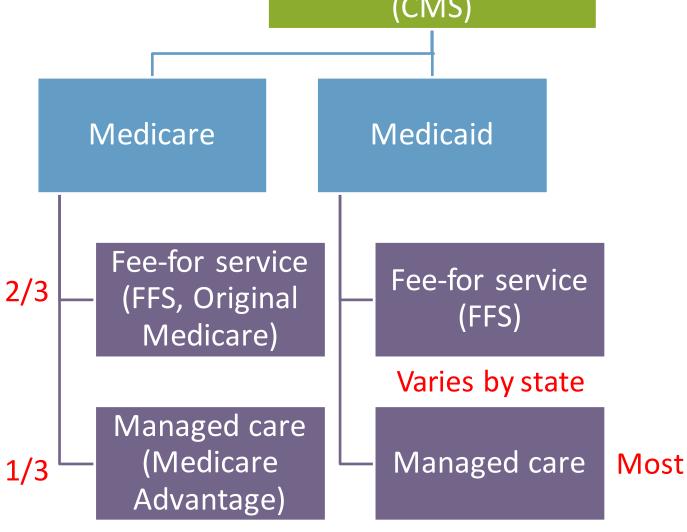
Background information

- Overview of CMS & USRDS Data in the VHA
 - https://www.hsrd.research.va.gov/for researchers/cyber seminars/archives/video archive.cfm?SessionID=6403&Seriesid=115
- Using Medicare data in VA research: part 1
 - https://www.hsrd.research.va.gov/for researchers/cyber seminars/archives/video archive.cfm?SessionID=6324&Seriesid=115
- Using Medicaid data in VA research
 - https://www.hsrd.research.va.gov/for researchers/cyber seminars/archives/video archive.cfm?SessionID=6477&Seriesid=115





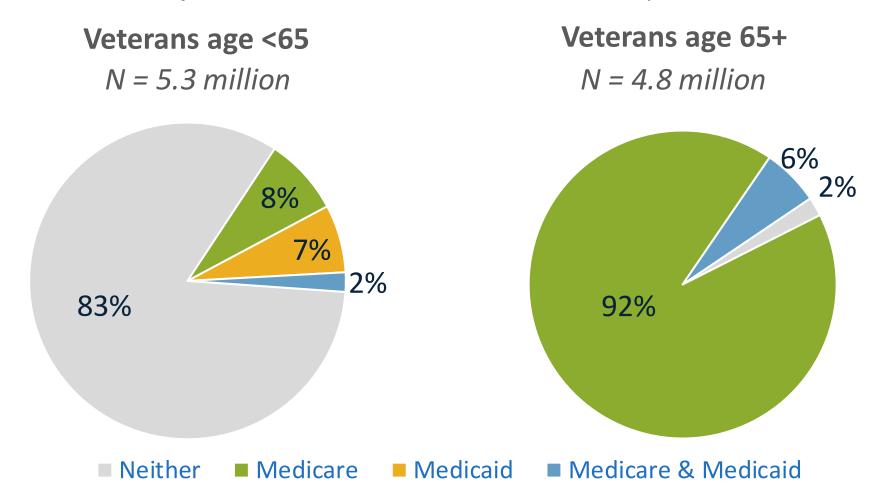






Veterans' Enrollment in Medicare & Medicaid

Percent of VHA Enrollees in Medicare/Medicaid in September 2021





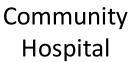
Where's the data?

Patient reporting

VA Medical Center



VA pays





VA pays

Community Care Fee Basis Veteran Choice Mission Act Emergencies

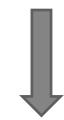


VA data

Community Hospital



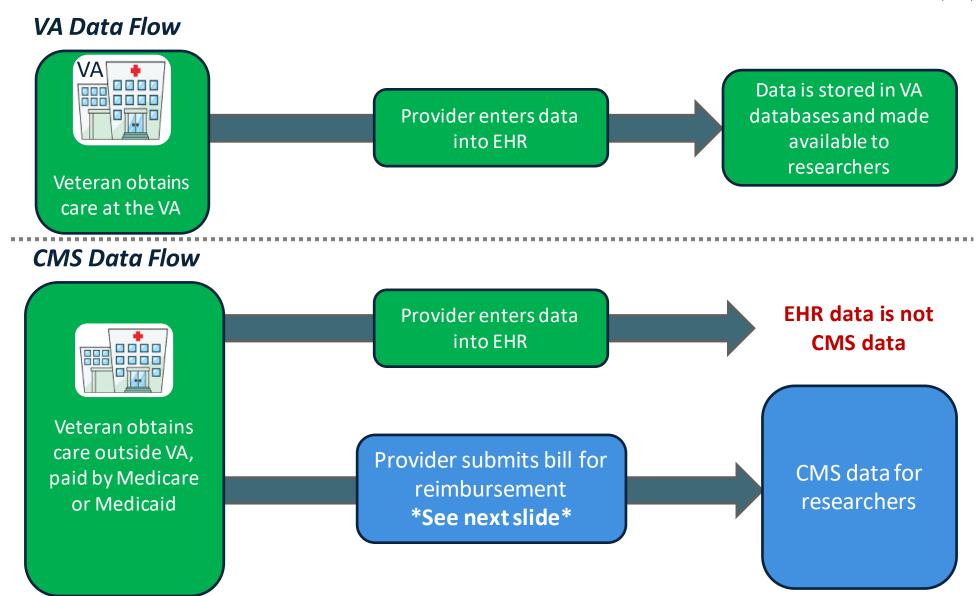
Medicare or Medicaid pays



CMS data



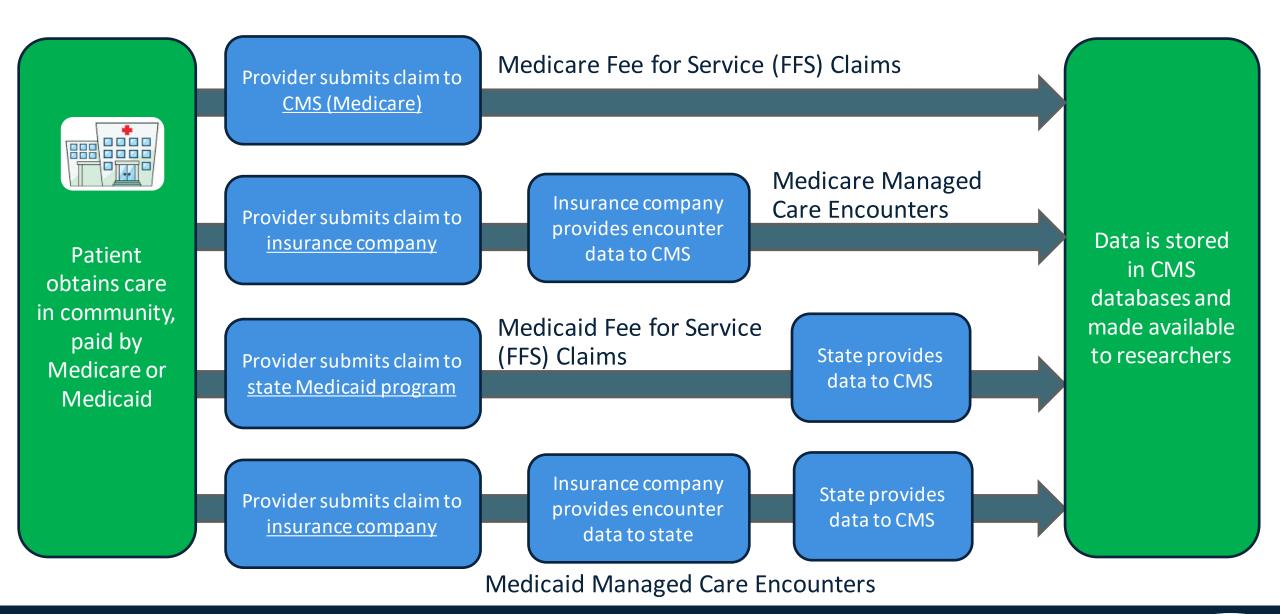
Source of VA & CMS Data







Medicare & Medicaid Data Flow

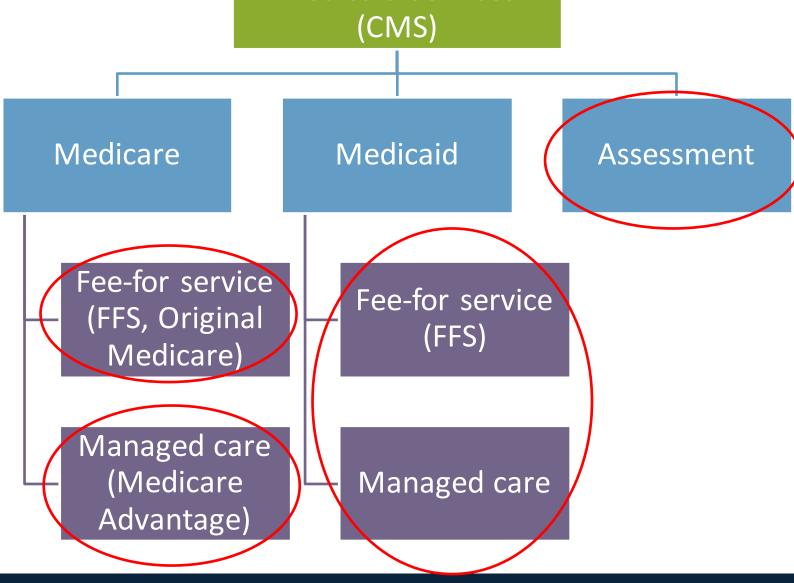






Types of CMS data







Assessment data

- Tools to document health and functional status of individuals
 - Used for planning care needs and determining reimbursement rates

Minimum Data Set (MDS)

Residing in nursing homes (all payers)

Outcome and Assessment Information Set (OASIS)

 Receiving home health care (paid by Medicare or Medicaid)

Data available "quickly"



Data Availability

	Final	Preliminary
Medicare enrollment & Fee-for-Service (FFS)	2021	2022-2023 Q1-2
Medicare Advantage	2020	2021
Medicaid	2020	2021
Assessment (MDS/OASIS)	2021	2022-2023 Q1-2

Additional year of all files coming soon!



What types of information are included in CMS data?

INCLUDED

Social Security Number

Dates of service

Provider & place of service

Costs

Procedure codes

Diagnosis codes

NOT INCLUDED or INCOMPLETE

Symptoms (



Vital signs

Test results <

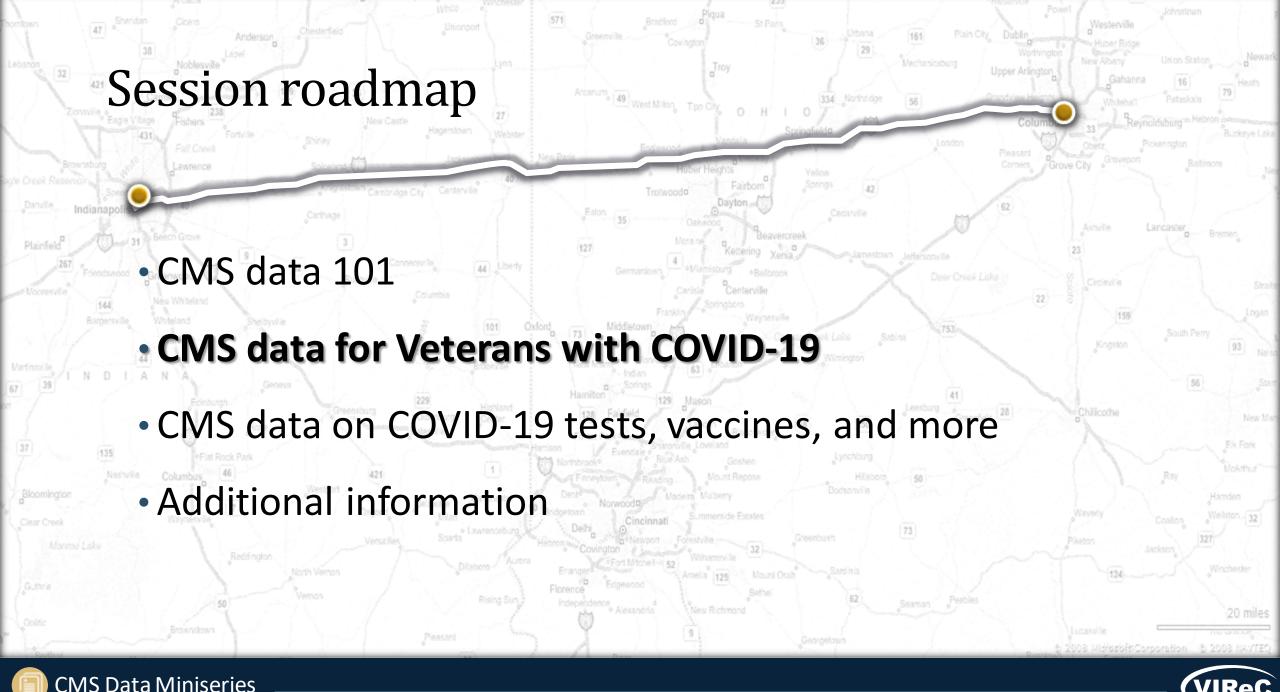


Services not itemized

Inpatient drugs









Billing data, not clinical data

- No lab/test results
- Only ICD-10 diagnosis codes
 - B97.29 Other coronavirus
 - U07.1 COVID-19
 - J12.82 Pneumonia due to COVID-19
 - Z86.16 Personal history of COVID-19
 - U09.9 Post COVID-19 condition

Incorrect diagnosis code on claim?

"Diagnosis information from claims/encounters is considered less reliable than clinical information collected through other methods (e.g., chart reviews)."

https://www.cms.gov/files/document/ medicare-covid-19-data-snapshotmethodology.pdf



Accuracy of COVID Dx in Administrative Data

JOURNAL AMERICAN GERIATRICS SOCIETY



Accuracy of ICD-10 codes for identifying skilled nursing facility residents with lab-confirmed COVID-19

Christopher M. Santostefano BSN, RN 🔀 Elizabeth M. White PhD, APRN, Richard A. Feifer MD, MPH, Vincent Mor PhD

First published: 10 August 2021 | https://doi.org/10.1111/jgs.17412 | Citations: 1

"These findings from a large multistate sample of SNF residents suggest that the U07.1 code can be used with reasonable accuracy to identify individual cases of COVID-19 in this population."

Annals of the American Thoracic Society

Home > Annals of the American Thoracic Society > List of Issues > Volume 19, Issue 5

 ■ Validation of the International Classification of Diseases Code for COVID-19
among Critically III Patients

⁽ⁱ⁾Nicholas A. Bosch *, ⁽ⁱ⁾Anica C. Law , Daniel Peterson , and ⁽ⁱ⁾Allan J. Walkey + Author Affiliations

"ICD-10 code U07.1 is highly specific and sensitive for SARS-CoV-2 infection and thus should be an accurate marker of disease activity in claims-based databases."

PMCID: PMC8183587

PMID: 34100236

<u>J Gen Intern Med.</u> 2021 Aug; 36(8): 2532–2535. Published online 2021 Jun 7. doi: 10.1007/s11606-021-06936-w

Accuracy of ICD-10 Diagnostic Codes to Identify COVID-19 Among Hospitalized Patients

Ankeet S. Bhatt, MD, MBA,¹ Erin E. McEirath, MBA,² Brian L. Claggett, PhD,¹ Deepak L. Bhatt, MD, MPH,¹ Dale S. Adler, MD,¹ Scott D. Solomon, MD,¹ and Muthiah Vaduganathan, MD, MPH^{№1}

"The robust specificity of ICD-10 U07.1 coding suggests that claims-based analyses may accurately capture patients with true COVID-19 disease. Epidemiological evaluations relying solely on U07.1 coding, however, may underestimate true disease burden."



ICD-10 Official Guidelines for Coding

g. Coronavirus Infections

1) COVID-19 Infections (Infections due to SARS-CoV-2)



a) Code only confirmed cases

Code only a confirmed diagnosis of the 2019 novel coronavirus disease (COVID-19) as documented by the provider documentation of a positive COVID-19 test result, or a presumptive positive COVID-19 test result. For a confirmed diagnosis, assign code U07.1, COVID-19. This is an exception to the hospital inpatient guideline Section II, H. In this context, "confirmation" does not require documentation of the type of test performed; the provider's documentation that the individual has COVID-19 is sufficient.

Presumptive positive COVID-19 test results should be coded as confirmed. A presumptive positive test result means an individual has tested positive for the virus at a local or state level, but it has not yet been confirmed by the Centers for Disease Control and Prevention (CDC). CDC confirmation of local and state tests for COVID-19 is no longer required.

If the provider documents "suspected," "possible," "probable," or "inconclusive" COVID-19, do not assign code U07.1. Assign a code(s) explaining the reason for encounter (such as fever) or Z20.828, Contact with and (suspected) exposure to other viral communicable diseases.

https://www.cdc.gov/nchs/data/icd/COVID-19-guidelines-final.pdf



VIReC created user-friendly files

1. Medicare COVID-19 Analytic Files

- Distributed fall 2020-summer 2023
- Includes 2020-2022 (no longer updated)
- Medicare FFS only
- Included some VA data

2. CMS COVID-19 Summary Files

- Distributed summer 2023-present
- 2020-most recent data
- Several CMS files
- No VA data



VIReC Created User Friendly Files for Patients with COVID-19

Medicare COVID-19 Analytic Files

- Person File, n=1.27 million
 - One record per person with COVID dx in Medicare FFS or test in VA and was enrolled in Medicare
- Post Diagnosis Stay file, n=431k
 - Medicare FFS IP & SNF stays in first 60 days after COVID dx or test in VA or Medicare

CMS COVID-19 Summary Files

- Diagnosis file
 - One record per COVID-related diagnosis code in CMS data



New CMS COVID-19 Summary Diagnosis File

- One record per COVID-19 related diagnosis
 - B97.29 Other coronavirus
 - U07.1 COVID-19, effective 4/1/20
 - J12.82 Pneumonia due to COVID-19, eff. 1/1/21
 - Z86.16 Personal history of COVID-19, eff. 1/1/21
 - U09.9 Post COVID-19 condition, eff. 10/1/21

- Variables include
 - Scrambled SSN
 - From & Thru dates
 - ICD-10 diagnosis code
 - ICD-10 diagnosis code data source



New CMS COVID-19 Diagnosis Summary files

Rec=6.2 m SSN=1.1 m

Medicare Fee for Service

• 2020-2023 Q2

Rec=1.88 m SSN=241 k

Medicare Advantage

• 2020-2021

Rec=611 k SSN=109 k

Medicaid

• 2020-2021

Rec=553 k SSN= 223 k

Assessments

• 2020-2023 Q2

CMS COVID-19
Diagnosis
Summary file

Records = 9.3 mSSNs = 1.4 m

Frequencies

Source files

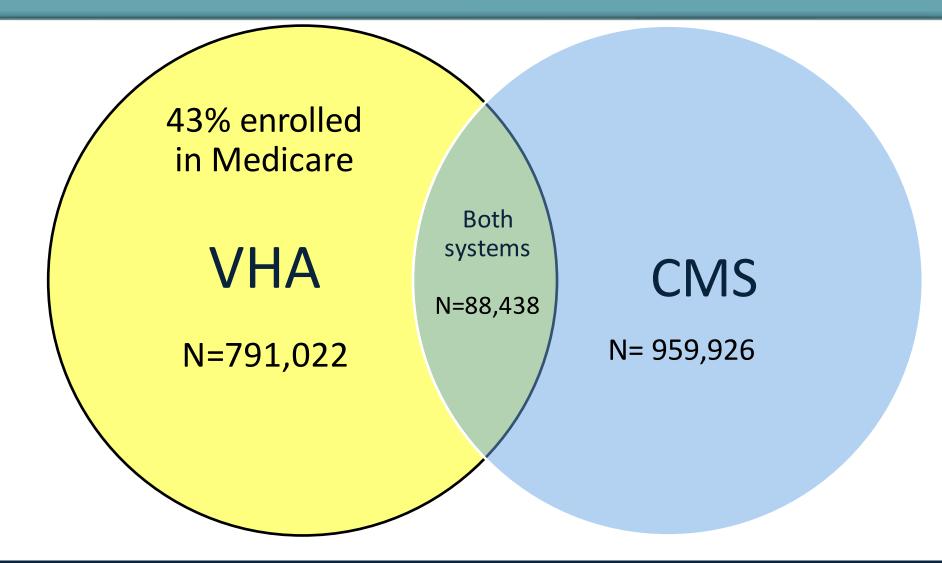
Medicare FFS67%Medicare Advantage20%Medicaid7%Assessment6%

ICD-10 DX codes

U07.1 (COVID-19)	75%
Z86.16 (Personal history of COVID-19)	12%
J12.82 (Pneumonia due to COVID-19)	11%
U09.9 (Post COVID-19 condition)	1.4%
B97.29 (Other coronavirus)	<1%

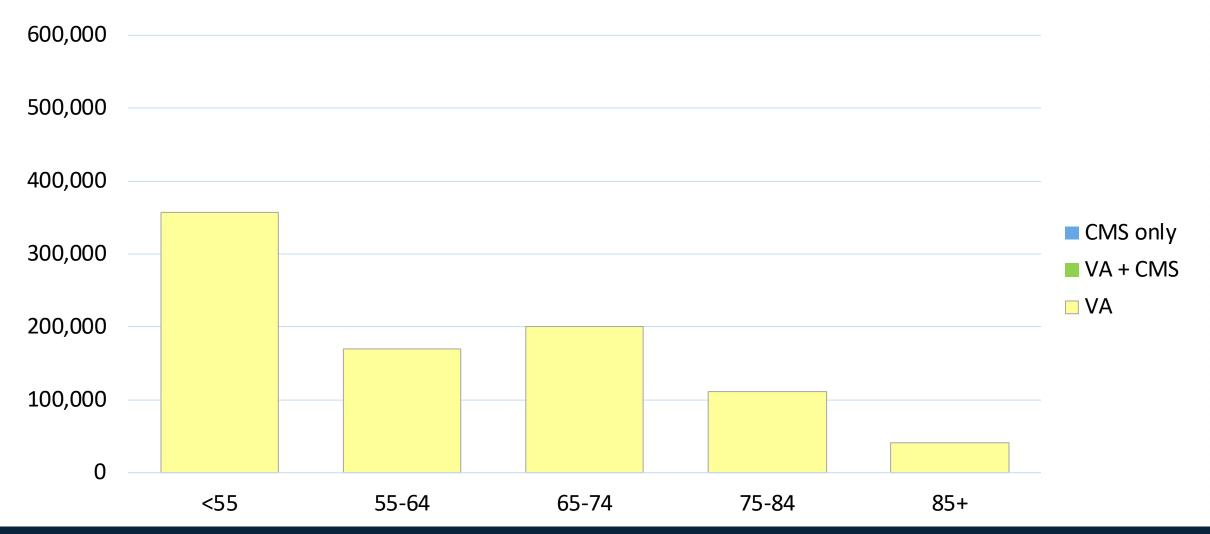


Source of Veterans' COVID-19 Diagnosis (June 2023)



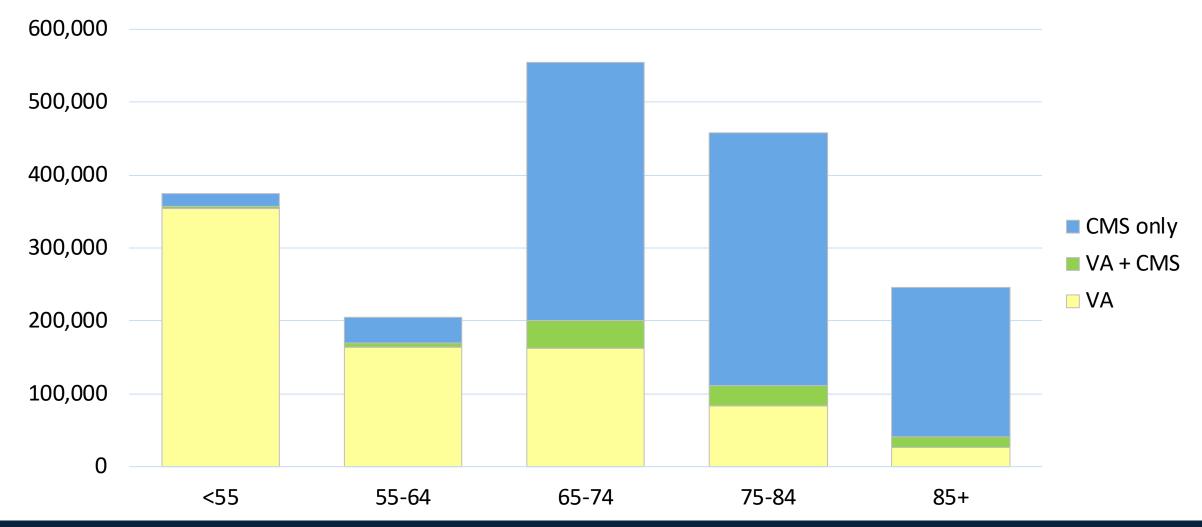


Number of COVID-19 cases, by age and source VHA data only (through 6/30/23)





Number of COVID-19 cases, by age and source VHA + CMS data (through 6/30/23)





How are Veterans diagnosed in Medicare FFS different from those diagnosed in VHA?

(Among Veterans enrolled in Medicare)

- Fewer received primary care in VHA in past 2 years
- Older
- More Medicaid enrollment
- More females
- More people of white race
- More deaths in 2020-22

https://vaww.virec.research.va.gov/VACMS/COVID-19/Presentations/Poster-Medicare-COVID-19-HSRD-2023.pdf



COVID-19 Treatments



New COVID-19 Treatment Add-on Payments (NCTAP) - Inpatient

- Hospitals get reimbursed for certain new treatments
- ICD-10 procedure codes: Convalescent plasma, Veklury, Olumiant
- NDC codes: Gohibic, Kineret, Lagevrio,
 Paxlovid

https://www.cms.gov/medicare/payment/covid-19/new-covid-19-treatments-add-payment-nctap

Coverage/Cost sharing varies by time period

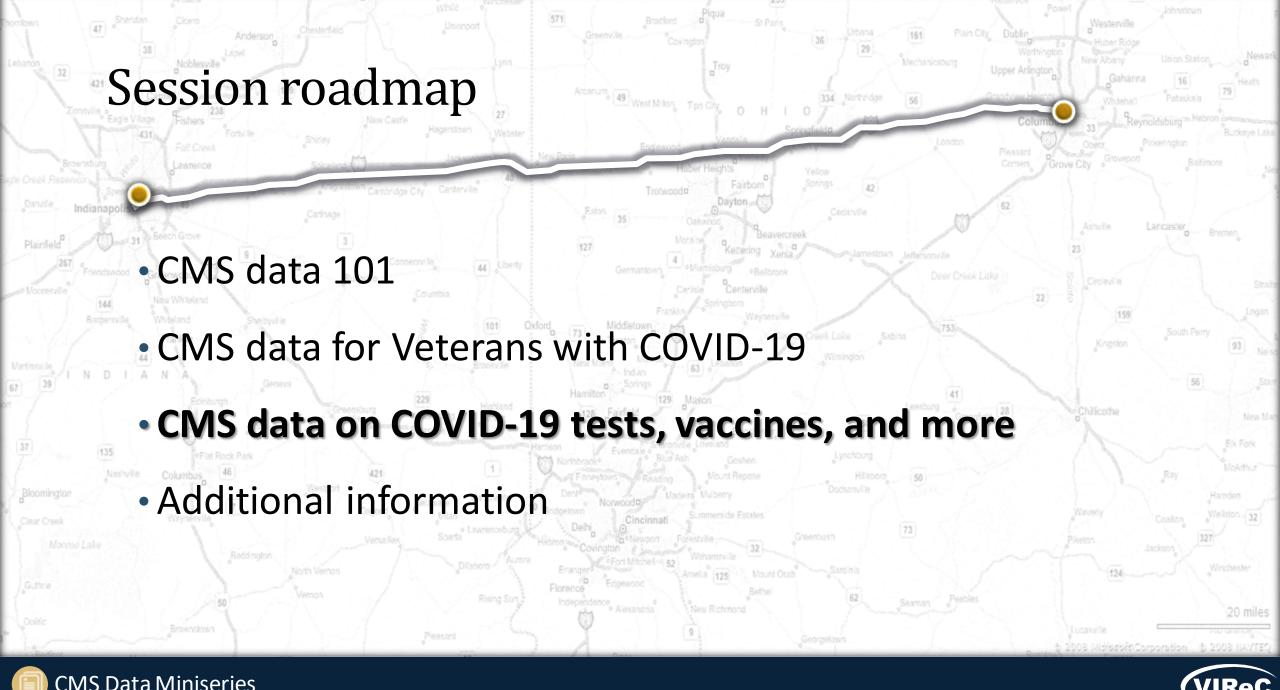
- Outpatient drugs
 - Medicare Part D or Medicaid RX
 - NDC codes
 - Lagevrio or Paxlovid
 - 2021-late 2023 covered by USG
 - Late 2023-forward covered by CMS

https://www.cms.gov/files/document/commercialcovid19oralantiviralsmemofinal.pdf

- Monoclonal antibodies
 - Outpatient, using HCPCS codes

https://www.cms.gov/monoclonal









Uses

COVID-19 specific issues: tests and vaccines

How did the pandemic effect non-COVID-19-related healthcare?



COVID-19 tests

- Medicare pays for COVID-19 tests
 - Lab test, with doctor's order
 - Lab test, without doctor's order
 - Home tests
- Identified using CPT/HCPCS codes

What we know from the data

- Date
- Provider
- Place of service
- ICD-10 Diagnosis Code
 - Reason for test and/or
 - Result

Coverage/Cost sharing varies by time period and plan



COVID-19 tests in VA's CMS data

Claims for COVID-19 tests

Medicare FFS 11.5 million

Medicare Advantage 3 million

Medicaid 1 million

Primary diagnosis code on claims for COVID-19 tests

37%	Z20.822	Contact with/suspected exposure to COVID-19
22%	Z20.828	Contact with/suspected exposure to viral communicable disease
8%	Z03.818	Encounter for suspected exposure to other biological agents
7%	U07.1	COVID-19
7%	Z11.59	Encounter for screening for other viral disease
5%	Z01.812	Encounter for pre-procedural lab exam



COVID-19 Vaccinations

 Medicare & Medicaid cover COVID-19 vaccinations without cost sharing, at least through 9/30/24



In CY21, COVID-19 vaccination for all Medicare enrollees paid by FFS

- 2021 vaccines for all enrollees in FFS claims

Identified using HCPCS codes



What does CMS cover?

Vaccine administration only (initially) – HCPCS code for administration only

- Vaccine + administration (now) - HCPCS codes for administration and drug

https://www.cms.gov/medicare/covid-19/medicare-billing-covid-19-vaccine-shot-administration https://www.cms.gov/medicare/payment/part-b-drugs/vaccine-pricing



VIReC Created User Friendly Files about COVID-19 Vaccines

Medicare COVID-19 Analytic Files

- Person File
 - One record per person who had a
 COVID vaccine in Medicare FFS data
- Details file
 - One record per HCPCS code for COVID vaccines in Medicare FFS data

CMS COVID-19 Summary Files

- Vaccine file
 - One record per HCPCS code for COVID vaccines in CMS data



New CMS COVID-19 Summary Vaccine File

One record per COVID-19 vaccine

https://www.cms.gov/medicare/payment/part-b-drugs/vaccine-pricing

CPT Code or HCPCS Code	CPT or HCPCS Short Descriptor	Labeler Name	Vaccine/Procedure Name	National Payment Allowance Effective for Claims with DOS on or after 03/15/2021	National Payment Allowance Effective for Claims with DOS through 03/14/2021	Effective Dates for Medicare Payment
90480	ADMN SARSCOV2 VACC 1 DOSE	N/A	N/A	\$40.000 ^[2]	Code not active during this time	09/11/2023 - TBD
M0201	Covid-19 vaccine home admin	Home vaccine admin	Covid-19 vaccine administration inside a patient's home; reported only once per individual home per date of service when only covid-19 vaccine administration is performed at the patient's home	\$35.50[2]	Code not active during this time	06/08/2021- TBD
91304	SARSCOV2 VAC 5MCG/0.5ML IM	Novevax	Novavax Covid-19 Vaccine, Adjuvanted (Aged 12 years and older)	\$148.200 ^[7]	Code not active during this time	07/13/2022 - TBD
91318	SARSCOV2 VAC 3MCG TRS-SUC	Pfizer- BioNTech	Pfizer-BioNTech COVID-19 Vaccine 2023-2024 Formula (Yellow Cap)	\$65.550	Code not active during this time	09/11/2023 TBD

Variables include

- Scrambled SSN
- Vaccination date
- HCPCS code
- HCPCS code data source
- Vaccine type/brand

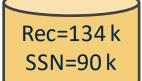


New CMS COVID-19 Vaccine Summary files

Rec=6.6 m SSN=2.9 m

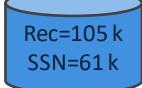
Medicare Fee for Service

• 2020-2023 Q2



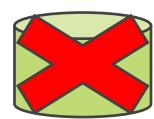
Medicare Advantage

• 2020-2021



Medicaid

• 2020-2021



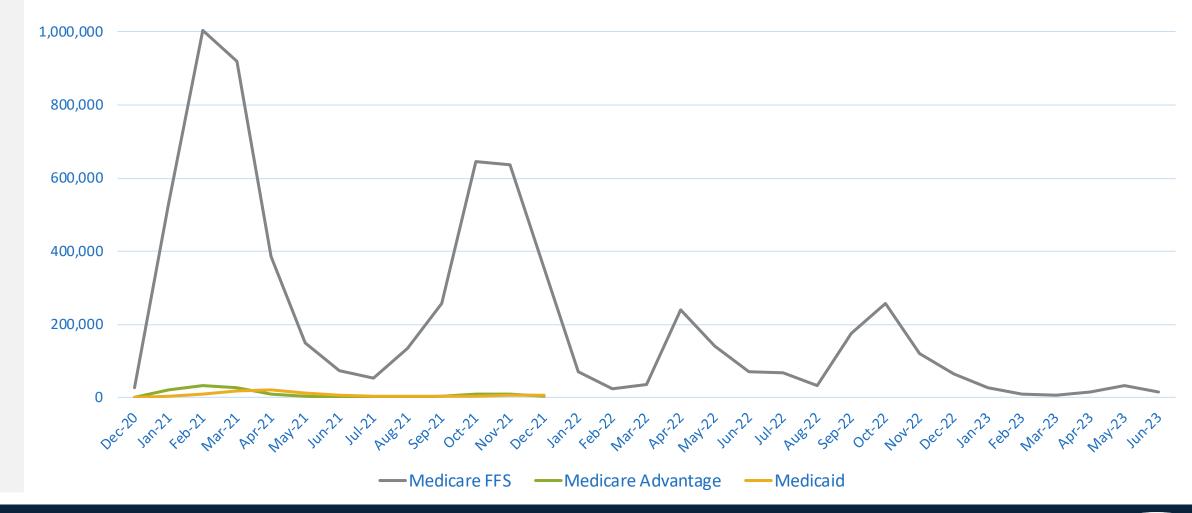
Assessments

CMS COVID-19 Vaccine Summary file

Rec = 6.8 m

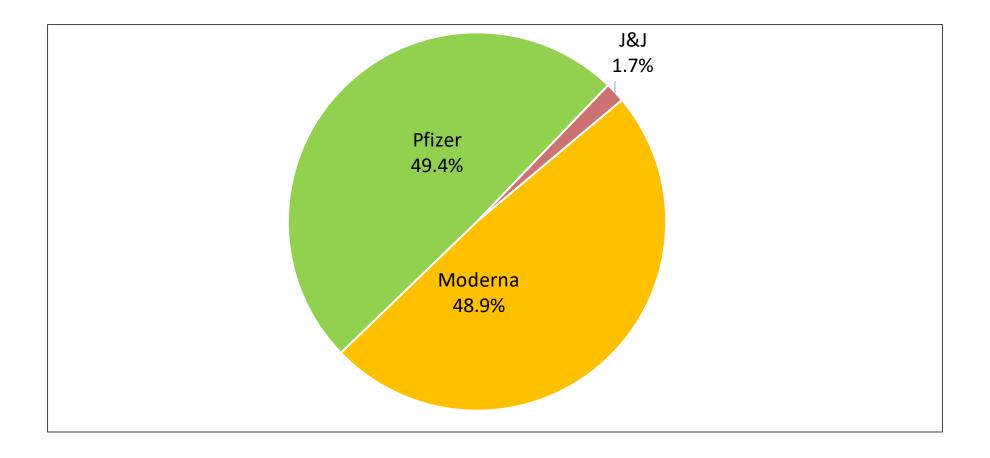
SSN = 3.0 m

Number of COVID-19 Vaccinations in CMS data



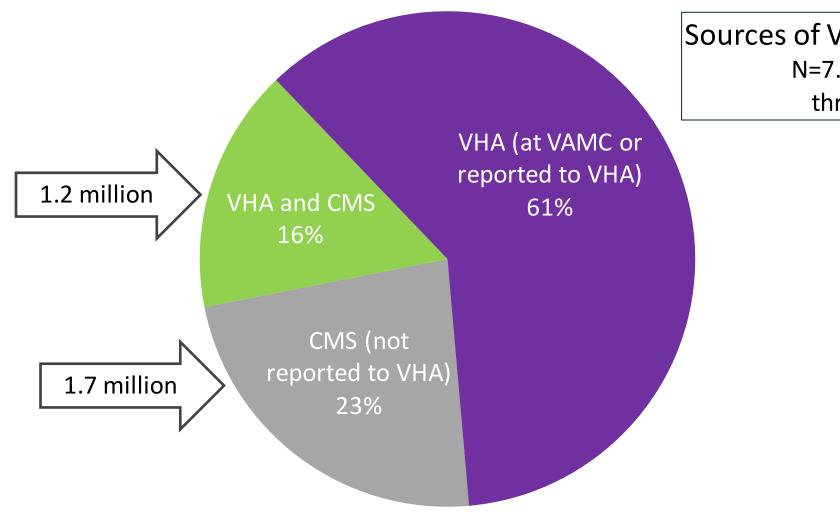


Type/Brand of Vaccine





Combining VHA & CMS COVID-19 Vaccine Data



Sources of Veterans' Vaccine Data N=7.5 million people through 6/30/23

https://vaww.virec.research.va.gov/VACMS/COVID-19/Presentations/Poster-Medicare-COVID-19-ARM-2023.pdf





Limitation: Missing vaccinations

- Vaccines missing from Medicare (or VA) data doesn't mean a person didn't receive it
- CMS analysis (through June 2021) shows significantly fewer vaccines in Medicare than expected, based on numbers reported to CDC
- Within 65+ population, only half of expected vaccines are found in Medicare claims data

https://www.cms.gov/data-research/cms-covid-19-data-products/medicare-covid-19-vaccine-analysis



Uses

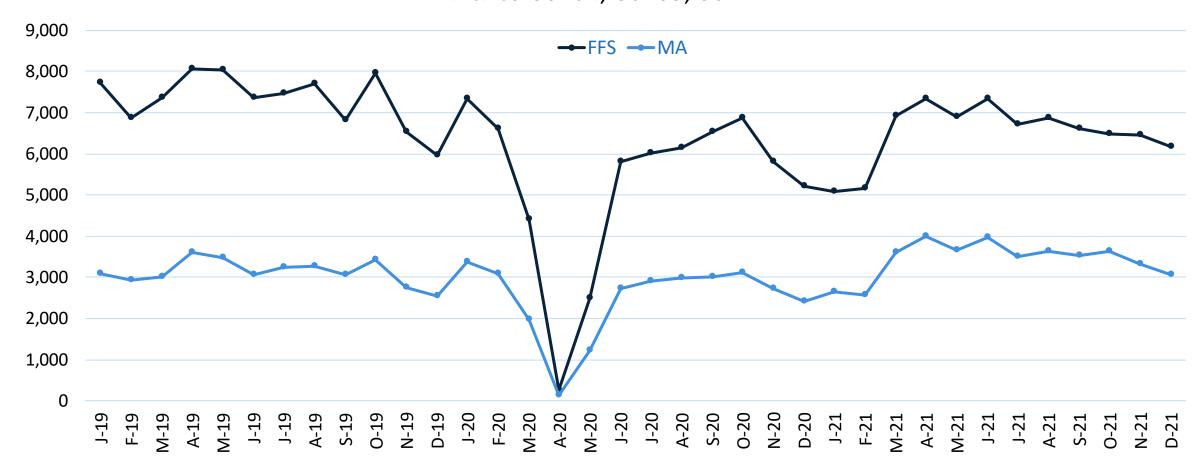
COVID-19 specific issues: tests and vaccines

How did the pandemic effect non-COVID-19-related healthcare?



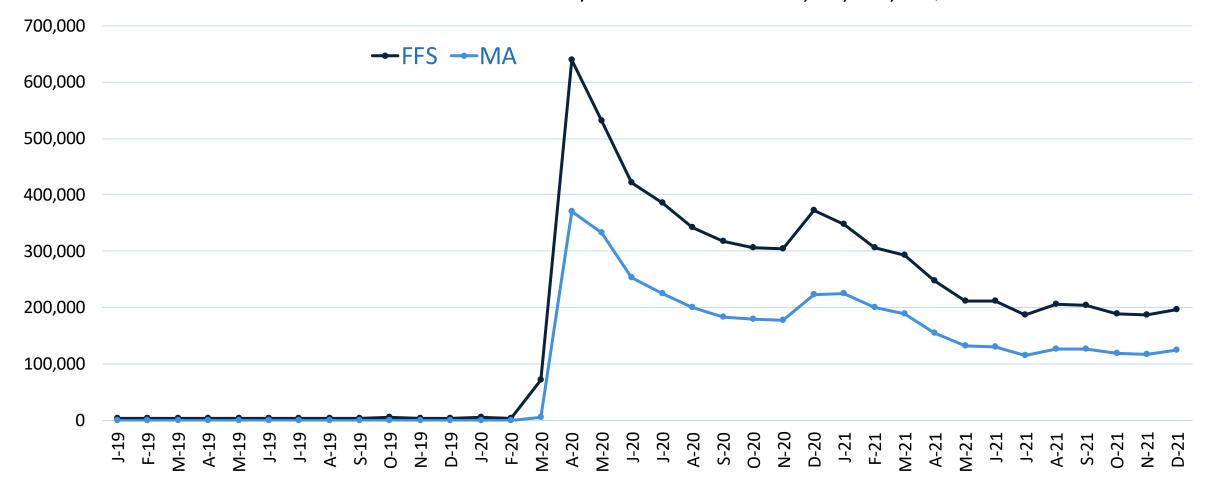
Delayed Care

Colonoscopies paid by Medicare, CY2019-2021 (Veterans only) HCPCS G0104, G0105, G0121





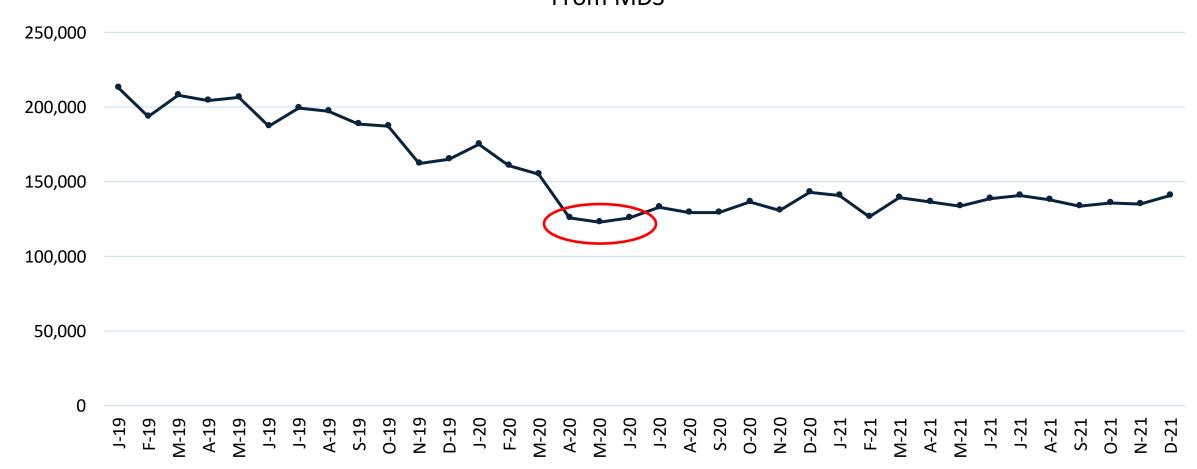
Telehealth Visits paid by Medicare, CY2019-2021 (Veterans only) Place of Service = 02 or CPT/HCPCS modifiers 95, GT, GO, GQ



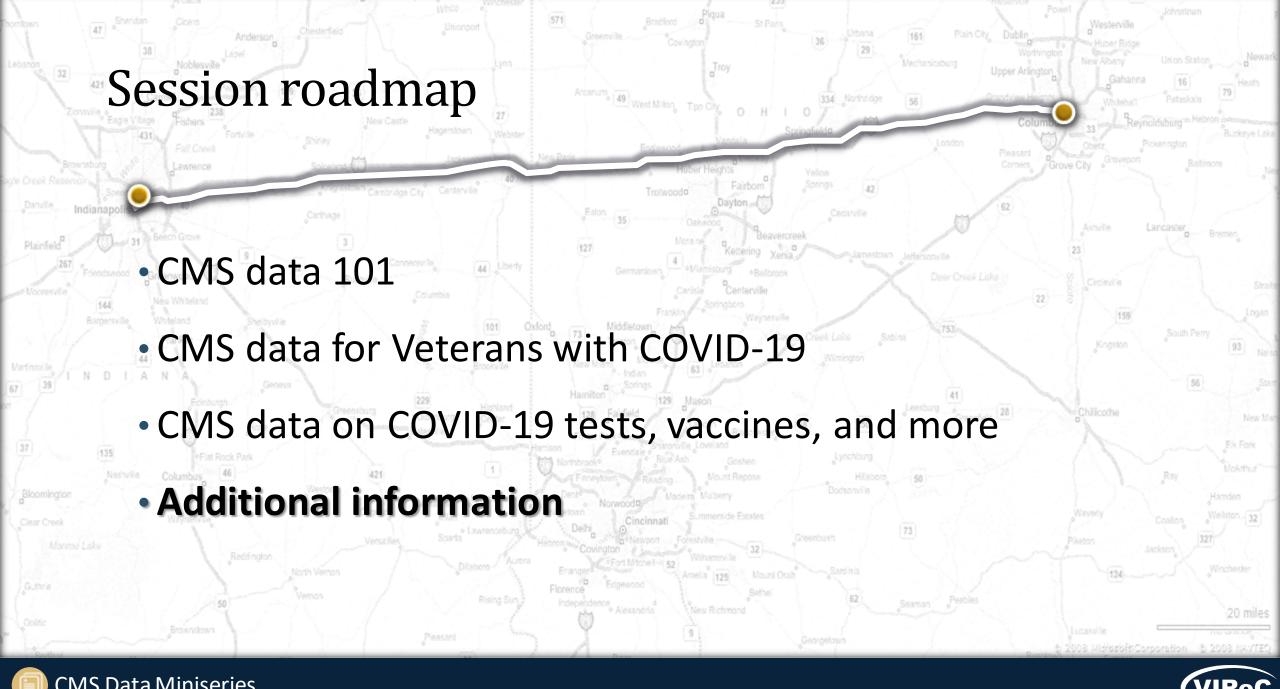


Minimal changes

Nursing Home Assessments, CY2019-2021 (Veterans only)
From MDS













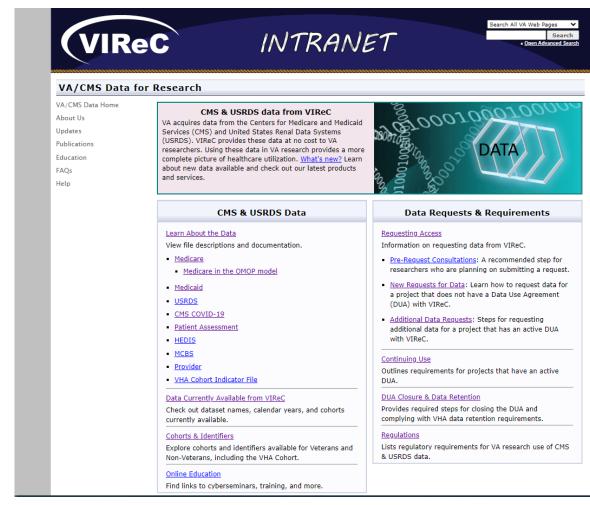
- The data steward for Centers for Medicare & Medicaid Services (CMS) data used for VA research
- Distributing data from to VA approved projects since 2003
- Providing assistance to VA research projects using CMS data
- No cost to VA researchers



Requesting CMS data

- Pre-Request Consultation
- Request Process and Forms
- Data Descriptions and Documentation

virec.vacmsdata@va.gov



vaww.virec.research.va.gov/Index-VACMS.htm (VA intranet only)





- Field office of VHA's Chief Strategy Office
- Data steward for CMS (Medicare) data used for VHA operations
 - VHA Program Offices
 - Quality Improvement/Quality Assurance
- vaww.va.gov/medicareanalysis/ (VA intranet only)





- CMS contractor based at the University of Minnesota
- Provides free assistance and training to researchers using CMS data
 - Help desk
 - Knowledge base
 - Webinars & workshops
- www.resdac.org



Chronic Conditions Data Warehouse

Your source for national CMS Medicare and Medicaid research data

- Source of most CMS data that VA receives
- Documentation
 - Data dictionaries
 - Summary tables
 - User guides & technical guides
 - White papers & presentations
- www.ccwdata.org



Thank you! Questions?





CONTACT INFORMATION

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VA intranet: https://vaww.virec.research.va.gov/Index-VACMS.htm

Internet: https://www.virec.research.va.gov/Index.asp







CMS DATA MINISERIES

Next session:

July 9th at 3 pm ET

Medicare Data in the OMOP Common Data Model



CMS Data Miniseries BONUS SLIDES





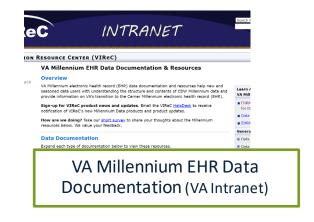
Resources for VA Data Users

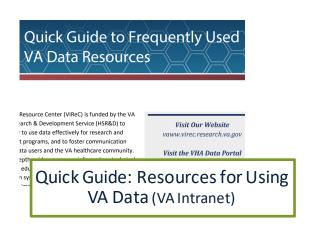
Select image to visit page





















Questions about using VA Data?

HSRData Listserv

- Community knowledge sharing
- ~1,800 VA data users
- Researchers, operations, data stewards, managers
- Subscribe by visiting
 vaww.virec.research.va.gov/Support/HSRData-L.htm (VA Intranet)

VIReC HelpDesk

- Individualized support
- O Request Form:

varedcap.rcp.vaec.va.gov/redcap/surveys/?s=KXMEN77LXK (VA Intranet)

