

Database & Methods Cyberseminar Series

Session #11. *Applying Comorbidity Measures Using VA and CMS (Medicare/Medicaid) Data*

This session is dedicated to
James F. Burgess, Jr., PhD

Today's objectives

At the end of this session, the participant will be able to:

- Name 4 sources of comorbidity information in VA and CMS data
- Identify 3 common data elements used in measuring comorbidities
- Recognize important measurement issues encountered when using administrative data to assess comorbidities
- Avoid common pitfalls in combining VA and CMS (Medicare/Medicaid) data to assess comorbidities

Session roadmap

- Background on comorbidity measurement
- Finding comorbidity information in VA & CMS Data
- Using administrative data to assess comorbidities: Important measurement considerations
- Case study: Example of VA Study that used VA and/or Medicare data to construct comorbidities
- Summary
- Additional Resources

Poll Question #1: *What is your role in the VA ?*

- Research investigator/PI
- Data manager, analyst, or programmer
- Project coordinator
- Clinical or operations staff
- Other – please describe via the Q&A function



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Definition: Comorbidity



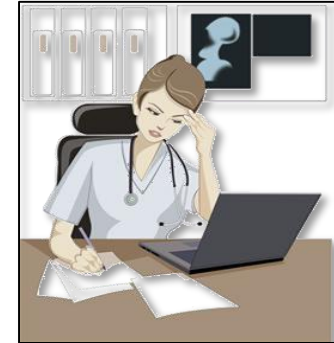
- A concomitant but unrelated pathological or disease process¹
- Several variations on this concept have emerged²
- Assuming focal condition, comorbidities are unrelated and specific, separate from health status

¹ American Heritage Medical Dictionary

² Valderas, JM, Starfield, B, Sibbald, B, et al., Defining Comorbidity: Implications for Understanding Health and Health Services. Ann Fam Med. 2009 July; 7(4): 357–363.

Comorbidities

- Can be used to evaluate:
 - Clinical outcomes
 - Resource use (e.g., costs)
 - Quality of care
- “Risk adjustment” and “case mix” terms often used
- May be conceptualized/ operationalized as:
 - Predictor (of direct interest for impact)
 - Covariate/confounder (adjusting for factors not of focus)
 - Moderator (affects the impact of variables of focus)
 - Dependent variable (SOMETIMES is the focus)



For each research question requiring information on comorbidities – Which Role?

- Comparative effectiveness studies
 - Is chemotherapy more effective than radiotherapy in the treatment of endometrial cancer?
- Healthcare disparities
 - Do comorbidities explain race/ethnic disparities in kidney transplants?
- Healthcare quality
 - Are VA patients more likely than those in FFS Medicare to receive recommended screening tests?
- Healthcare costs / Provider productivity
 - Who provides more cost-effective care for diabetes – endocrinologists, nephrologists or general internists?

Sources of Comorbidity Information in Administrative Data

- Workload (VA) or claims (Medicare, Medicaid) data for diagnosis and procedure codes
- Pharmacy data for medications specific to a disease/condition
- Lab data for laboratory results indicating a condition
- Other, e.g., program enrollment records

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Types of Comorbidity Information Available in Commonly Used Datasets (Examples)

Diagnosis and Procedure Codes

- **VA workload data**
 - Corporate Data Warehouse
 - Medical SAS Datasets
 - Non-VA Medical Care (formerly Fee Basis) Files
- **Medicare claims**
 - Institutional Standard Analytic Files (SAFs)
 - Non-Institutional SAFs
 - Institutional Stay Level File (MedPAR)
- **Medicaid claims**
 - Medicaid Analytic Extract (MAX) Files



Types of Comorbidity Information Available in Commonly Used Datasets (Examples)

Medications



- e.g., oral hypoglycemics, insulin indicate diabetes
- VA Pharmacy Benefit Management (PBM), Managerial Cost Accounting (MCA; formerly Decision Support System (DSS)), CDW Pharmacy BCMA and Outpatient data
- Medicare Part D claims
- Medicaid Prescription Drug claims

Laboratory Results



- e.g., elevated glycohemoglobin indicates diabetes
- MCA Laboratory Results National Data Extract (NDE)
- CDW LabChem data

Types of Diagnosis Codes

- ICD-9-CM/ICD-10-CM Diagnosis Codes¹
 - International Classification of Diseases, Ninth Revision, Clinical Modification
 - Medicare and Medicaid transitioned to ICD-10 October 1, 2015 (beginning of FY16)
 - Admitting code - patient's initial diagnosis at the time of admission
 - Primary/principal codes - conditions chiefly responsible for the visit/admission
 - Secondary codes - conditions affecting services provided
 - Line item code - diagnosis supporting procedure/service on the non-institutional claim

¹ [National Center for Health Statistics](#)

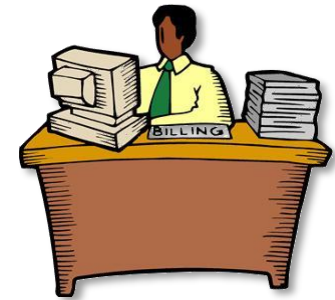
Types of Procedure Codes



- ICD-9-CM/ICD-10-CM Procedure Codes
 - Used for inpatient services in VA, institutional inpatient Medicare claims, and inpatient and other services in Medicaid claims
 - Used for inpatient and other services in Medicaid claims
- AMA Current Procedural Terminology (CPT®)¹
 - Current Procedural Terminology
 - Used for outpatient services in VA

¹ [AMA CPT Terminology](https://www.ama-assn.org/practice-management/cpt-current-procedural-terminology): <https://www.ama-assn.org/practice-management/cpt-current-procedural-terminology> 09/2018

Types of Procedure Codes (cont'd)



HCPCS (Healthcare Common Procedure Coding System) Codes¹

- Used in Medicare/Medicaid billing
- Level 1: CPT® codes (services & procedures)
- Level 2: Used to identify products, supplies, and services not included in the CPT codes (e.g., ambulance service & durable medical equipment)

¹ [Centers for Medicare & Medicaid Services- HCPCS Codes:](https://www.cms.gov/Medicare/Coding/MedHCPCSGenInfo/index.html)
<https://www.cms.gov/Medicare/Coding/MedHCPCSGenInfo/index.html>

VA MedSAS Datasets: Diagnosis & Procedure Codes

	Principal Admitting Diagnosis Code	Primary Diagnosis Code	Secondary Diagnosis Codes	ICD-9/10 Procedure Codes	CPT Procedure Codes
Inpatient Main	X	X	X		
Inpatient Bedsection	X	X	X		
Inpatient Procedure	X	X		X	
Inpatient Surgery	X	X		X	
Outpatient Visit					
Outpatient Event		X	X		X
Inpatient Encounters		X	X	X	X

VA CDW Datasets: Diagnosis & Procedure Codes			
Dataset	ICD-9/ICD-10 Diagnosis Code	ICD-9/ICD-10 Procedure Code	CPT Procedure Code
Inpatient Domain			
InpatientDiagnosis InpatientDischargeDiagnosis InpatientFeeDiagnosis PatientTransferDiagnosis PresentonAdmission SpecialtyTransferDiagnosis	X		
InpatientCDProcedure InpatientSurgicalProcedure InpatientCPTProcedure			
		X	
Outpatient Workload Domain			
WorkloadVDiagnosis WorkloadVProcedureDiagnosis WorkloadVProcedure	X		
Purchase Care Domain			
FeeInpatInvoiceCDDiagnosis FeeInpatInvoiceCDProcedure	X	X	
FeeServiceProvided	X		X

Non-VA Medical Care Files: Diagnosis & Procedure Codes

	Discharge Diagnosis Codes	Secondary Diagnosis Codes	ICD-9/10 Procedure Codes	CPT Procedure Codes
Inpatient	X	X	X	
Inpatient Ancillary	X *			X
Outpatient	X			X

***Beginning FY2009**

Medicare Data: Diagnosis and Procedure Codes

	Admitting Diagnosis Code	Primary Diagnosis Code	Secondary Diagnosis Codes	ICD-9/10 Procedure Codes	HCPCS Procedure Codes
MedPAR	X	X	X	X	
Inpatient	X	X	X	X	
SNF	X	X	X		X
Outpatient		X	X		X
Hospice		X	X		X
Home Health		X	X		X
Carrier		X	X		X
DME		X	X		X

Medicaid Data: Diagnosis and Procedure Codes

	Principal Diagnosis Code	Secondary Diagnosis Codes	ICD-9/10 Procedure Codes	CPT Procedure Codes	HCPCS Procedure Codes
Other Services	X	X		X*	X*
Inpatient	X	X	X*		
Long Term Care	X	X			

*Procedure coding system variable (ICD-9, CPT-4, or HCPCS) accompanies the procedure code variables

Pharmacy Data

Potential value in using pharmacy-based measure versus ICD-based measures

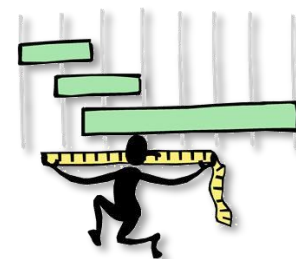
- When diagnosis information is not available
- Stable chronic conditions not occasioning a provider visit (e.g., hypertension, epilepsy)
- Conditions for which the treatment regimen is set and time-limited (e.g., TB)



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Comorbidities vs. comorbidity burden or summary risk measure

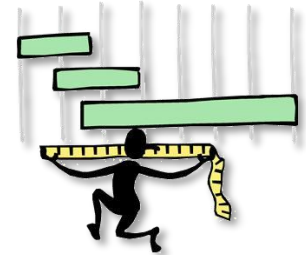


- Are specific conditions of interest?
- Summary measures
 - Provide one number—the score, simplifying the analysis
 - Allows for parsimony in statistical regression models
- Influences data that can be used and conditions to be identified

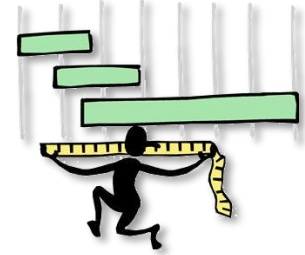
What conditions or condition groups to capture?

Depends on:

- Population
- Objective (e.g., case-mix adjustment)
- Outcome (e.g., mortality? post-stroke rehab? expenditures?)
- Data availability - inpatient, outpatient, or both
 - (see Klabunde 2000; Wang 2000)



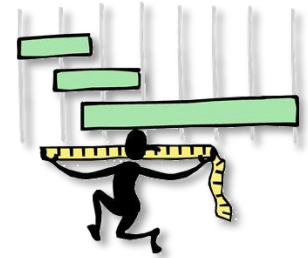
Carefully Consider Inclusion and Exclusion criteria



Identify clinician-assigned diagnoses.

- Avoid clinical laboratory, diagnostic imaging (radiology, x-ray), and other ancillary test/service events; DME/prosthetics; telephone encounters
- VA – MCA (formerly DSS) Primary Stop Codes, Berenson-Eggers Type of Service (BETOS) categories, Place of Service codes
- Medicare – DME File, Physician Specialty codes, Claim type code, BETOS, Place of Service codes

Exclude 'rule-out' diagnoses



Operational definition: Any diagnosis that does not meet the following criteria¹:

- Appears at least once on a record/claim for inpatient care, or
- Appears on at least two records/claims for outpatient care with visit/claim dates at least 30 days apart
- Most common approach, but could have reasons for doing things differently

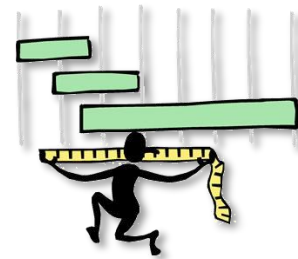
¹ Klabunde CN, Harlan LC, Warren JL. Data sources for measuring comorbidity: a comparison of hospital records and Medicare claims for cancer patients. Med Care 2006; 44: 921-28

Identifying Non-Clinician-Assigned Diagnoses

Examples of VA stop codes used to identify records for exclusion

X-ray	105
Laboratory	108
Diagnostic radiology	30
Mammography screening center	45
Clinical laboratory	69

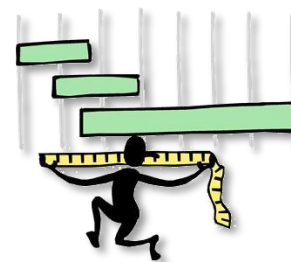
Measurement time period



- Active diagnoses
- Temporal relationship between comorbidity measurement and outcome measurement
- Anchor
 - Date
 - Event

Special Challenges

- Measuring functional status
- Measuring severity of disease
- Undiagnosed conditions
 - You need to have an encounter with a provider in order to have an identifiable diagnosis



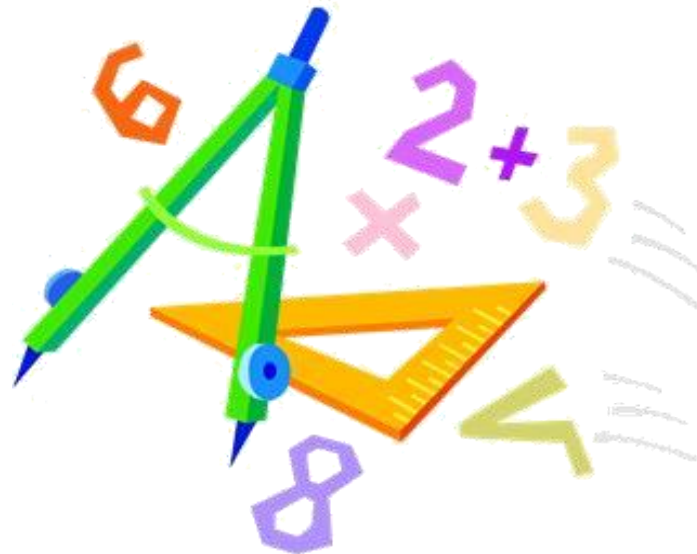
Comorbidity measurement using administrative data

Electronic Health Record (EHR) -- data is tied to healthcare use:

- In VA: no healthcare encounter -> no record generated -> no diagnosis recorded
- Non-VA data sources, other than those in Non-VA Medical Care [formerly Fee Basis], may generate procedure and diagnosis codes not available in VA data
- More frequent use of healthcare -> more opportunities for diagnoses made and recorded

Analytic Strategies in Comorbidity Measurement Using Administrative Data¹

- Ordinal
- Weighting
- Categorical



¹ Lash TL, Mor V, Wieland D, Ferrucci L, Satariano W, Silliman RA. Methodology, design, and analytic techniques to address measurement of comorbid disease. *J Gerontol A Biol Sci Med Sci*. 2007;62(3):281-285.

Commonly Used Comorbidity Measures Using Administrative Data

Charlson

Deyo-Charlson

Romano adaptation

Quan

(Charlson and Elixhauser methods – 2005 Medical Care)

Elixhauser

HCC/DCG

RxRisk

Nosos

ACG

Functional Comorbidity Index

Others



Charlson Comorbidity Index

- Developed to predict mortality
- 19 chronic conditions
- Each has a weight
- Score = sum of weights
- Extended/adapted by Deyo, Romano independently



Charlson vs. Elixhauser (Quan)



ICD-9-CM and ICD-10 algorithms for Charlson and Elixhauser (Quan version) yielded similar results ¹

¹ Quan, H., Sundararajan, V., Halfon, P., Fong, A. Burnand, B., Luthi, J-C., Saunders, L. D., Beck, C. A., Feasby, T. E., and Ghali, W. A. . Coding algorithms for defining comorbidities in ICD-9-CM and ICD-10 administrative data. Medical Care (2005): 1130-1139

HCC/DCG Method

- Developed to predict costs
- 15,000 ICD-9 diagnosis codes put into
 - 185 buckets of homogeneous conditions
- Homogeneous condition categories (buckets) arranged hierarchically
 - Within single organ system
 - Patients falling into more than one bucket within an organ system assigned to one with highest resource use
- HCC/DCG risk scores calculated



Nosos and CMS V21 Measures



- VA developed tailored solution built off of DXCG (HCC) Risk Solutions model
- CMS V21 based on the CMS 189 HCC Prospective Risk Model
- Nosos1 from Greek for “Chronic Disease” adds VA specific registry and other factors to the CMS V21 model and generates prospective/concurrent models
- Models with SAS datasets² and programs³ available

¹See: Todd Wagner, cyberseminar [Risk Adjustment for Cost Analyses: Development and Implementation of the V21 and Nosos Systems February 18, 2015 HERC Health Economics Seminar](#)

²SAS datasets available for FY2006-2014 at \\vhacdwap15\RiskScores

³SAS Programs available on VINCI SAS Grid at /data/ops/OPES_CMSHCCV21/nososmacros

Why Nosos?

- VA specific and validated improvements to base CMS V21 model
- Adds VA relevant demographics, including VA priority
- Employs VA Registries (e.g. Spinal Cord Injury, PTSD, Hepatitis C, Transplant, ESRD, Homeless)
- Uses 26 of the 29 PBM Drug Classes (the ones commonly used in VA)
- Employs 46 Rosen psychiatric condition categories

Pharmacy Data: VA Chronic Disease Score

- VA-based version of RxRisk
 - Includes 45 chronic disease categories identified through prescription data



See: Sloan KL, et al. Construction and characteristics of RxRisk-V: a VA-adapted pharmacy-based case-mix instrument. *Med Care* 2003; 41(6): 761-74

Combining VA and CMS Data to Measure Comorbidities

Main Pitfall: Not using both data sources



Issues:

- Differing incentives to record complete information
- Differing dates-of-service issues may impact measurement time period
 - VA and Medicare inpatient care: exact diagnosis date usually not captured
 - Medicare: some services billed periodically, e.g., home health
- Differing types of codes used

Importance of Complete Data



Incomplete health status information: Byrne, et al. 2006¹

Objective: Determine whether all diagnoses and total illness burden of patients who use both the VA and Medicare health care systems can be obtained from examination of data from only one of these systems

- Calculated risk scores using VA only, Medicare only, and both VA and Medicare data

¹ Byrne MM, Kuebeler M, Pietz K, Petersen LA. Effect of using information from only one system for dually eligible health care users. Med Care. 2006;44(8):768-773

Importance of Complete Data



- On average for a given patient who used both VA and Medicare services, more diagnoses were recorded in Medicare (~13–15) than in the VA system (~8) for dual users.
- On average only 2 diagnoses were common to both the VA and Medicare.
- Medicare data alone accounted for approximately 80% of individuals' total illness burden, and VA data alone captured one-third of the total illness burden (Medicare more severe).
- The ratio of RRSs when calculated using Medicare and VA separately was approximately 2.4.

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Research Example: Pugh MJ, Finley EP, Copeland LA, et al. Complex comorbidity clusters in OEF/OIF veterans: the polytrauma clinical triad and beyond. *Med Care*. 2014; 52(2):172-181.

Complex Comorbidity Clusters in OEF/OIF Veterans The Polytrauma Clinical Triad and Beyond

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Chen-Pin Wang, PhD*†, Polly H. Noel, PhD*§, Megan E. Anuan, MPH,§
Helen M. Parsons, PhD, MPH,†, Margaret Wells, BS*†, Barbara Elizondo, BA*†
and Jacqueline A. Pugh, MD*#

Background: A growing body of research on US Veterans from Afghanistan and Iraq (Operations Enduring and Iraqi Freedom, and Operation New Dawn (OEF/OIF)) has described the polytrauma clinical triad (PCT): traumatic brain injury (TBI), posttraumatic stress disorder (PTSD), and pain. Extant research has not explored comorbidity clusters in this population more broadly, particularly co-occurring chronic diseases.

Objectives: The aim of the study was to identify comorbidity clusters among diagnoses of deployment-specific (TBI, PTSD, pain) and chronic (eg, hypertension, diabetes) conditions, and to examine the association of these clusters with health care utilization and adverse outcomes.

Research Design: This was a retrospective cohort study.

Subjects: The cohort comprised OEF/OIF Veterans who received care in the Veterans Health Administration in fiscal years (FY) 2008–2010.

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The content of this article is solely the responsibility of the authors and does not necessarily reflect the official views of the Veterans' Health Administration.

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The authors declare no conflict of interest.

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Measures: We identified comorbidity using validated ICD-9-CM code-based algorithms and FY08–09 data, followed by which we applied latent class analysis to identify the most statistically distinct and clinically meaningful patterns of comorbidity. We examined the association of these clusters with process measures/outcomes using logistic regression to correlate medication use, acute health care utilization, and adverse outcomes in FY10.

Results: In this cohort (N=191,797), we found 6 comorbidity clusters. Cluster 1: PCT+Chronic Disease (5%); Cluster 2: PCT (9%); Cluster 3: Mental Health+Substance Abuse (24%); Cluster 4: Sleep, Amputation, Chronic Disease (4%); Cluster 5: Pain, Moderate PTSD (6%); and Cluster 6: Relatively Healthy (53%). Subsequent health care utilization patterns and adverse events were consistent with disease patterns.

Conclusions: These comorbidity clusters extend beyond the PCT and may be used as a foundation to examine coordination/quality of care and outcomes for OEF/OIF Veterans with different patterns of comorbidity.

Key Words: Afghan Campaign 2001 (Operation Enduring Freedom), comorbidity, Iraq War 2003 (Operation Iraqi Freedom), veterans

(*Med Care* 2014;52: 172–181)

The years since 2001 have presented extraordinary challenges to the US Armed Forces and the Veterans Health Administration (VA) in their efforts to provide high-quality care to Veterans returning from deployment to Afghanistan and Iraq (Operations Enduring and Iraqi Freedom, and Operation New Dawn, hereafter OEF/OIF). Studies in this population have identified high rates of combat-related injuries and mental health conditions that commonly co-occur and that have implications for health care utilization, treatment, and long-term outcomes.^{1–4} The majority of prior studies have focused on the signature injuries of traumatic brain injury (TBI), posttraumatic stress disorder (PTSD), and pain, also known as the polytrauma clinical triad (PCT), individually or in combination (eg, TBI and PTSD, PTSD and pain, etc.).^{5–10}

Although trauma-based injuries and mental health problems dominate research in this population,^{10–13} Veterans

Background: Extant research has not explored comorbidity clusters in OEF/OIF Veterans more broadly, particularly co-occurring chronic diseases.

Objective: To identify comorbidity clusters among diagnoses of deployment-specific and chronic conditions.

Sample: OEF/OIF Veterans who received care in the VHA in FY2008–2010.

Note: Comorbidity indicators used in latent class analysis (trying to group or categorize Veterans)

Research Example: Pugh MJ, Finley EP, Copeland LA, et al. Complex comorbidity clusters in OEF/OIF veterans: the polytrauma clinical triad and beyond. Med Care. 2014; 52(2):172-181.

- Comorbidity data sources
 - VA MCA <DSS> NDEs
 - Inpatient and Outpatient
- Comorbidity measurement
 - Measurement period: FY2008-2009
 - Excluded diagnoses from ancillary care: laboratory, radiology, etc.
 - Used ICD-9-CM codes previously validated for use in administrative data (including Charlson, Elixhauser) to create dichotomous indicators for 32 conditions

Research Example: Pugh MJ, Finley EP, Copeland LA, et al. Complex comorbidity clusters in OEF/OIF veterans: the polytrauma clinical triad and beyond. Med Care. 2014; 52(2):172-181.

Physical/mental health and post deployment conditions examined

- TBI
- Inner Ear
- Hearing
- Vision Problems
- Headache
- Low Back Pain
- Other Pain
- Sleep
- PTSD
- Depression
- Anxiety
- Bipolar Disorder
- Substance Abuse/Dependence
- Cardiac
- Hypertension
- Diabetes
- Obesity
- Osteoarthritis
- Burns
- Amputation
- Spinal Injury
- IBD
- PVD
- CVD
- Seizures
- Cognitive Impairment/Dementia
- Other neurological conditions
- Fatigue
- Schizophrenia
- Other Mental Health
- Rheumatoid Arthritis/Collagen Disease
- Cancer

Research Example: Pugh MJ, Finley EP, Copeland LA, et al. Complex comorbidity clusters in OEF/OIF veterans: the polytrauma clinical triad and beyond. Med Care. 2014; 52(2):172-181.

Results

- 6 Comorbidity clusters (Latent Class Analysis) were identified
 - PCT (Polytrauma Clinical Triad) + Chronic Disease
 - PCT alone
 - Mental Health + Substance Abuse
 - Sleep, Amputation, Chronic Disease
 - Pain, Moderate PTSD
 - Relatively Healthy

Limitation

- Data do not reflect non-VA care or diagnoses received in non-VA settings, probably very significant in this younger population.

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Summary

- Selecting the right method always depends on the research questions and the conceptual role of comorbidities affecting your particular study
- There is no one-size-fits-all approach!!!
- You want to consider pros and cons of particular approaches you are considering carefully

Summary

- Make sure you understand the frailty and possible inconsistencies in coding from the data you use...
- So think about the data generating process of your data, does it come solely from the VA (so you have VA registries, e.g.) or are you combining with Medicare or Medicaid data? Why are you using the data you are using?

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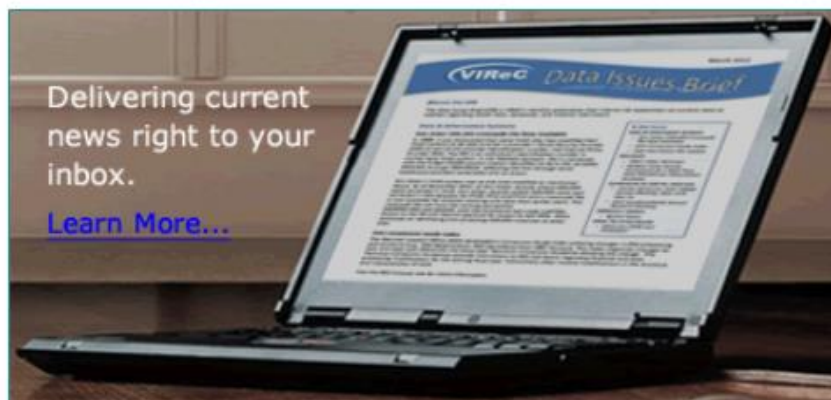
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The latest CDW Factbooks contain technical, clinical, and/or procedural descriptions of tables, columns, and values.

■ [Purchased Care Service Domain](#)

■ [Appointment 2.2 Domain](#)

[The Researcher's Notebook #11](#)

Learn about the use of procedure codes in the VHA.

[Pharmacy MCA NDE User Guide](#)

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[Learn about VA data:](#)

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**Link to
Comorbidity
Resources**

[VA/CMS Data for Research Project](#): Data custodian for CMS and USRDS data for VA research.

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Measuring Comorbidity Using VA and Medicare Data

Overview

Measures of patient comorbidity are important in evaluating multiple potential uses in research. For example, a comorbidity measure can be used as a dependent variable, predictor, tool for partial risk adjustment, criteria for a cohort selection. In general, comorbidity measures quantify, and study the complexity of comorbidity distribution, research question or objective. Researchers can use comorbidity measures along with established comorbidity measures to assess observational healthcare studies.

Data for Assessing Comorbidity

Many data sources contain data that can be used for assessing comorbidity, such as diagnosis and procedure codes, pharmacy and laboratory test data, etc. The following data sources have been used by VA researchers in comorbidity studies. Select a data source from the table below to learn more.

Data Source
Corporate Data Warehouse
Medical SAS Datasets
Non-VA Medical Care

What's in the Literature?

A Bibliography on Comorbidity Measurement

Methods for Measuring Comorbidity

Researchers should keep in mind that all measures have strengths and weaknesses and are inherently incomplete. The most appropriate comorbidity measure for a study will depend on the research question, population of interest, data availability, and researcher's goals. Since these measures vary (a) in their definition of comorbid conditions, (b) the populations and/or outcomes on which they have been validated; (c) the inclusion or exclusions of various disorders (and the weights assigned to them); and (d) other parameters, it is important to evaluate the comorbidity measure under consideration against relevant literature. The following are examples of comorbidity measures.

+ Expand All

- + [Charlson Comorbidity Index](#)
- + [Elixhauser Comorbidity Index](#)
- + [Quan Comorbidity Measure](#)
- + [HCC/DCG Comorbidity Measure](#)
- + [V21 and Nosos Risk Scores Program](#)
- + [RxRisk](#)

Calculating a Comorbidity Index for Risk Adjustment Using VA or Medicare Data

A VIREC Tutorial

Revised comorbidity tutorial



INTRANET

Search All VA Web Pages

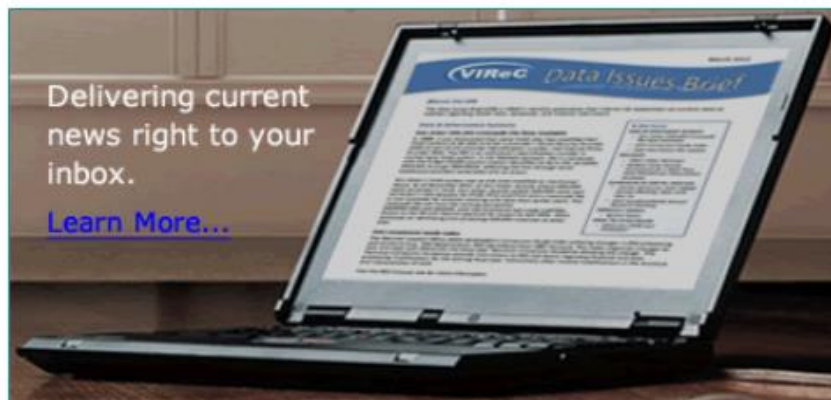
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[Upcoming Cyberseminars](#)

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[Data Tip of the Month](#)

New from VIREC

[CDW Factbooks](#)

The latest CDW Factbooks contain technical, clinical, and/or procedural descriptions of tables, columns, and values.

■ [Purchased Care Service Domain](#)

■ [Appointment 2.2 Domain](#)

[The Researcher's Notebook #11](#)

Learn about the use of procedure codes in the VHA.

[Pharmacy MCA NDE User Guide](#)

VIREC Resources

[Learn about VA data:](#)

[+ Data Sources](#)

[+ Data Topics](#)

[+ Data Tools](#)

**Link to
ICD 10
Resources**

[VA/CMS Data for Research Project](#): Data custodian for CMS and USRDS data for VA research.

[Factbooks](#): Describe tables, columns, and values in select CDW Domains.

CONVERSATIONS ABOUT VA DATA
HSRData Listserv



CURRENT VA DATA NEWS
Data Issues Brief



EXPERIENCES FROM THE FIELD
Researcher's Notebook





<http://vaww.virec.research.va.gov/ICD-10/Overview.htm>

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ICD-10 Implementation

Overview

On October 1, 2015, VA implemented structural changes to include ICD-10 codes in the [Veterans Health Information Systems & Technologies Architecture \(Vista\)](#), which is the origin of data in many VA databases. VA datasets commonly used by the research community have been modified to accommodate these codes.

- Diagnostic and procedural variables within these sources will use the ICD-10 code set.
- ICD-9 codes will remain in datasets prior to October 1, 2015.
- Episodes of care completed before October 1, 2015, used ICD-9 codes.
- Episodes of care that began before and continued after October 1, 2015, used ICD-10 codes.

Impact on VA Datasets

Select a data source for more information on how ICD-10 was implemented.

- ☐ Corporate Data Warehouse (CDW)
- ☐ Medical SAS Datasets
- ☐ Non-VA Medical Care File

Mapping ICD-9 to ICD-10

- Centers for Medicare and Medicaid Services (CMS) provides [General Equivalence Mappings \(GEMS\)](#) and guidance, including [GEM frequently asked questions](#).
- VIREC provides a [SAS Program for Mapping ICD-9 to ICD-10](#). Follow the [CMS GEMS](#) guide for variables description.

General Resources

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

Cyberseminars and Technical Report

- Tutorial providing step-by-step guidance on constructing a comorbidity index
<http://vaww.virec.research.va.gov/Tutorials/CALC-CCI/Tutorial-CALC-CCI-CY15.pdf> (VA Intranet only)
- Risk Adjustment for Cost Analyses: The Development and Implementation of a New System (HERC Cyberseminar)
http://www.hsrcd.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=933
- Risk Adjustment: Guide to the V21 and Nosos Risk Score Programs
<http://www.herc.research.va.gov/include/page.asp?id=technical-report-risk-adjustment> (HERC Website)

VIReC Options for Specific Questions

HSRData Listserv

- Community knowledge sharing
- ~1,360 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

(708) 202-2413

Quick links for VA data resources

Quick Guide: Resources for Using VA Data

<http://vaww.virec.research.va.gov/Toolkit/QG-Resources-for-Using-VA-Data.pdf> (VA Intranet)

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

VIReC Cyberseminars: <http://www.virec.research.va.gov/Resources/Cyberseminars.asp>

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

VINCI: <http://vaww.vinci.med.va.gov/vincicentral/> (VA Intranet)

Health Economics Resource Center (HERC): <http://vaww.herc.research.va.gov> (VA Intranet)

CDW: <https://vaww.cdw.va.gov/Pages/CDWHome.aspx> (VA Intranet)

Archived cyberseminar: What can the HSR&D Resource Centers do for you?

http://www.hsrdr.research.va.gov/for_researchers/cyber_seminars/archives/video_archive.cfm?SessionID=101

Contact information

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Denise.Hynes@va.gov



Next session:
October 1, 2018 @1 pm Eastern



Database & Methods Cyberseminar Series

*Overview of VA Data, Information Systems, National
Databases and Research Uses*

Maria Souden, MSI, PhD

Acting Director

VA Information Resource Center