

2013-2014 VIREC Database and Methods Cyber Seminar Series

Assessing Inpatient and Outpatient VA Healthcare Use

December 2, 2013

Presented by:

Denise M. Hynes, MPH, PhD, RN



Audience Question

- **What particular aspects of healthcare use are you interested in measuring?**

Topics for Today



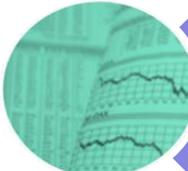
How has healthcare utilization been measured in VA studies?



Overview of Medical SAS datasets



Finding information in the Medical SAS datasets



Examples of VA studies that have assessed healthcare use



Where to go for more help

Topics for Today



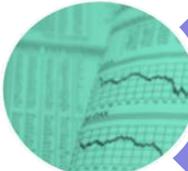
How has healthcare utilization been measured in VA studies?



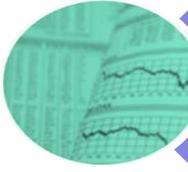
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Where to go for more help

Frayne, Berg, Holmes, et al., *J Rehabil Res Dev* 2010;47(8):709-718

Mental illness-related disparities in length of stay: Algorithm choice influences results

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Abstract—Methodological challenges arise when one uses various Veterans Health Administration (VHA) data sources, each created for distinct purposes, to characterize length of stay (LOS). To illustrate this issue, we examined how algorithm choice affects conclusions about mental health condition (MHC)-related differences in LOS for VHA patients with diabetes nationally ($n = 784,321$). We assembled a record-level database of all fiscal year (FY) 2003 inpatient care. In 10 steps, we sequentially added instances of inpatient care from various VHA sources. We processed databases in three stages, truncating stays at the beginning and end of FY03 and consolidating overlapping stays. For patients with MHCs versus those without MHCs, mean LOS was 17.7 versus 13.6 days, respectively ($p < 0.001$), for the crudest algorithm and 37.2 versus 21.7 days, respectively ($p < 0.001$), for the most refined algorithm. Researchers can improve the quality of data applied to VHA systems redesigns by applying methodological considerations raised by this study to inform LOS algorithm choice.

Key words: algorithms, databases, Department of Veterans Affairs, episode of care, healthcare disparities, health services research, human, length of stay, mental disorders, outcome and process assessment, patient discharge, physician's practice patterns, rehabilitation, reproducibility of results, veterans, veterans hospitals.

INTRODUCTION

Health services researchers often use administrative data for characterizing length of stay (LOS) to address a range of objectives. For example, they may examine how LOS (as a dependent variable) varies as a function of patient characteristics (e.g., age, race, insurance status, presence of comorbidity), processes of care (e.g., speed of emergency department response, types of medications administered or interventions applied, discharge protocols, etc.), or institutional characteristics (e.g., teaching hospital, mental health facility, etc.) [1-7]. Alternatively,

Abbreviations: DEpic = Diabetes Epidemiology Cohort, DSS = Decision Support System, EXT = extended care, FY = fiscal year, ICD-9 = International Classification of Diseases-9th Revision, LOS = length of stay, MHC = mental health condition, OBS = observation, OPAT = outpatient file, VHA = Veterans Health Administration.

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DOI:10.1682/JRRD.2009.08.0112

Objective: Examined how algorithm choice affected conclusions about mental illness-related disparities in length of stay

Study Design: Using a 2002 cohort of patients, tracked inpatient use in 2003

Data Sources: VA Inpatient MedSAS datasets, others

Healthcare Use Construct:
Inpatient events and Length of stay

Research Example II:

Luther, Neumayer, Henderson, et al., *Am J Surg*
2013;206:72-79

The American Journal of Surgery (2013) 206, 72-79

The American
Journal of Surgery

Clinical Science

The use of breast-conserving surgery for women treated for breast cancer in the Department of Veterans Affairs

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William G. Henderson, M.P.H., Ph.D.^{d,e}, Phillip Foulis, M.D., M.P.H.^{a,f},
Matthew Richardson, M.B.A., M.S.P.H.^g, Jolie Haun, Ph.D., Ed.S.^g,
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KEYWORDS:

Breast cancer,
Women,
Breast-conserving
surgery,
Veterans

Abstract

BACKGROUND: Previous non-stage-adjusted research described a lower use of breast-conserving surgery (BCS) for the treatment of breast cancer in the Veterans Health Administration (VHA) facilities than in the private sector.

METHODS: We combined data from the VHA Centralized Cancer Registry with administrative datasets to describe surgical treatment for locoregional breast cancer in VHA facilities from 2000 to 2006.

RESULTS: When considering only procedures performed in VHA facilities, BCS rates decreased from 50.5% (31/61) in 2000 to 42.2% (n = 26/62) in 2006; however, after accounting for procedures conducted in the private sector and paid for by the VHA, BCS rates approached those experienced in breast cancer patients cared for outside the VHA.

CONCLUSIONS: Based solely on procedures performed in the VHA, rates of BCS are much lower in the VHA than in the private sector. We were able to show similar rates of BCS use when we accounted for procedures paid for by the VHA but performed at an outside facility. Further exploration and prospective analysis to examine these findings are needed.

Published by Elsevier Inc.

Supported by the Department of Veterans Affairs, Veterans Health Administration, Office of Research and Development, Health Services Research and Development IR-06-073.

The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.

Presented in part at the 2010 VA Women's Health Services Utilization Conference, July 13, 2010, Arlington, VA.

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Manuscript received February 1, 2012; revised manuscript June 26, 2012.

ISSN 0021-9384 - see front matter. Published by Elsevier Inc.
<http://dx.doi.org/10.1016/j.amjsurg.2012.08.012>

- **Objective:** To conduct stage-adjusted analyses of the utilization rates of breast-conserving surgery
- **Study Design:** Retrospective cohort study of women Veterans diagnosed or receiving their initial treatment for breast cancer in 2000-2006 at VHA facilities
- **Data Sources:** VA Inpatient and Outpatient MedSAS Datasets, VA Cancer Registry, among others

■ **Healthcare Use Construct:**
Surgical procedures

Topics for Today



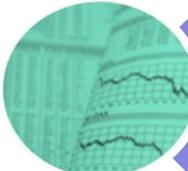
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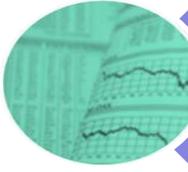
Overview of Medical SAS datasets



Finding information in the Medical SAS datasets



Examples of VA studies that have assessed healthcare use



Where to go for more help

Audience Poll

(Heidi to convert using poll function)

■ **How would you rate your overall knowledge of the VA MedSAS datasets?**

1 (Never Used);

2;

3;

4;

5 (Used Frequently, Very familiar)

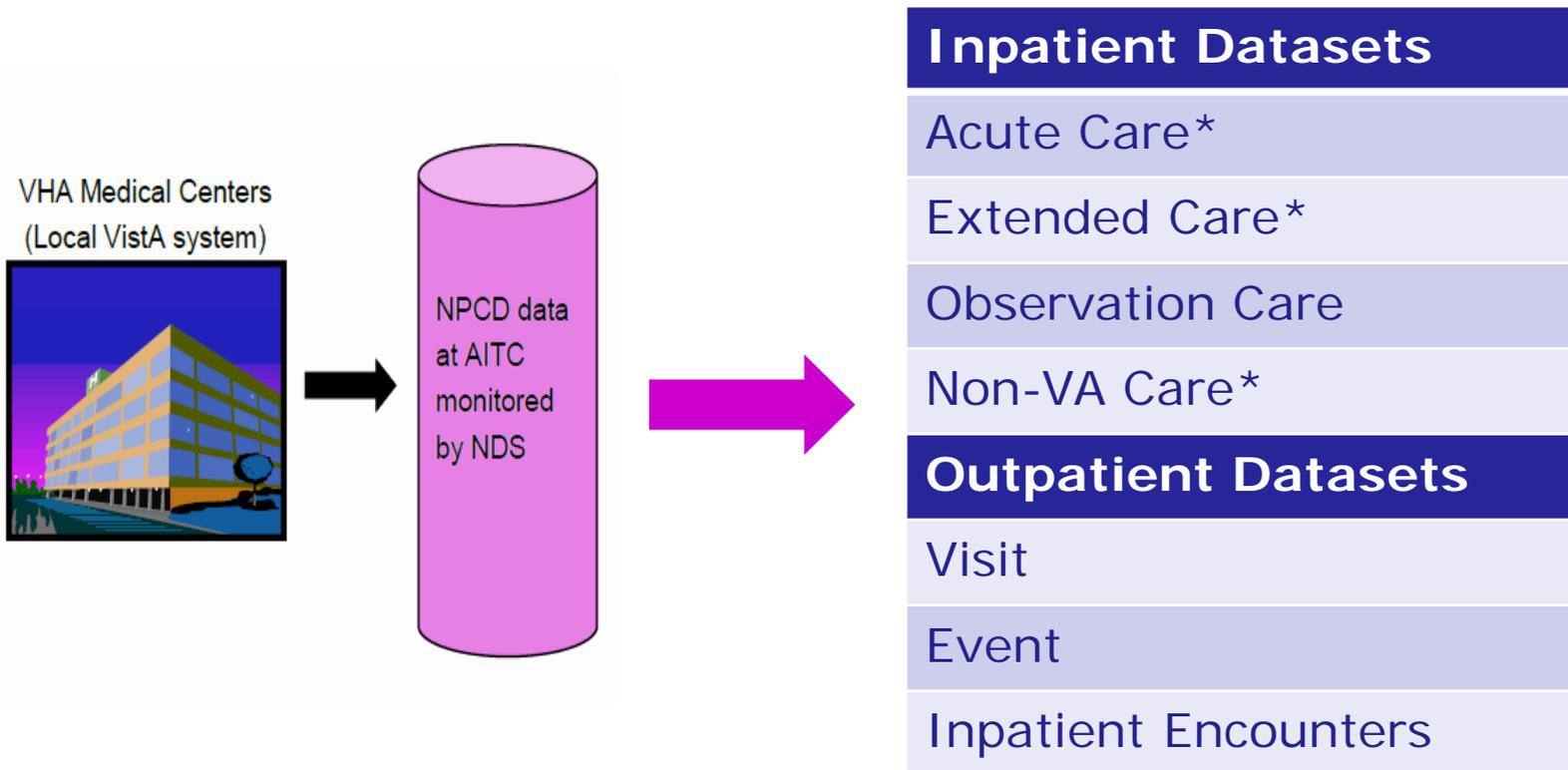
Overview of Medical SAS Datasets

- **Medical SAS (MedSAS) Inpatient and Outpatient Datasets**
 - Comprehensive datasets for national VHA healthcare delivery
 - Hosted on mainframe computer at Austin Information Technology Center (AITC)
 - Inpatient and outpatient datasets

Overview of Medical SAS Datasets

- Available on a quarterly basis
- Researchers advised to use annual, closed-out datasets
- Common element: patient identifier (scrambled SSN)
- After the NPCD shutdown (end of FY14), FY15 outpatient utilization data will only be available in SQL tables in the Corporate Data Warehouse

VA Data Flow to the Medical SAS Datasets



*4 datasets within each category: Main, Bed Section, Procedure, Surgery

VA Medical SAS Inpatient Datasets

4 datasets within each category of care

File	Information Provided
Main	Summary of entire stay (episode of care) and demographic information
Bed Section	Data for segment of stay defined by specialty of physician managing patient's care
Procedure	Information on up to 5 procedures on a given day
Surgery	Information on up to 5 surgeries on a given day

VA Medical SAS Inpatient Datasets: Acute Care

- Datasets at AITC are named: MDPPRD.MDP.SAS.**XX****yy**
XX = two letter reference code below; **yy** = two digit FY

File	Reference	Dates
Main	PM	1970 - present
Bed Section	PB	1984 – present
Procedure	PP	1988 - present
Surgery	PS	1984 - present

VA Medical SAS Outpatient Datasets

File	Information Provided
Visit	Reports services provided to a patient in a 24-hour period at a single facility
Event	Provides information about individual outpatient encounters
Inpatient Encounters	Provides information about professional services received during inpatient stay

VA Medical SAS Outpatient Datasets

- Datasets at AITC are named: MDPPRD.MDP.SAS.**XX****yy**
XX = two letter reference code below; **yy** = two digit FY

File	Reference	Dates
Visit	SF	1980 - present
Event	SE	1998 – present
Inpatient Encounters	IE	2005 - present

Visit vs. Event File

Patient's
Outpatient
Clinic Stops



During One
Day at One
Facility

Primary
Care Clinic
Stop

Ophthalmology
Clinic Stop

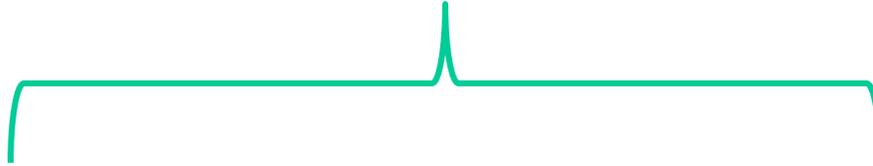
Physical
Therapy
Clinic Stop

Event

Event

Event

Visit



VA Medical SAS Outpatient Datasets

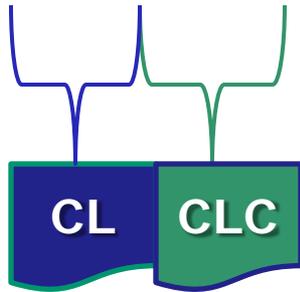
Clinic Stops

- **Clinics are identified using Clinic Stop Codes (equivalent to DSS Identifiers)**
 - **Primary Clinic Stop Code (CL)**
 - Identifies production units or revenue centers for outpatient care
 - **Secondary Clinic Stop Code (CLC)**
 - Further specifies team, service, funding

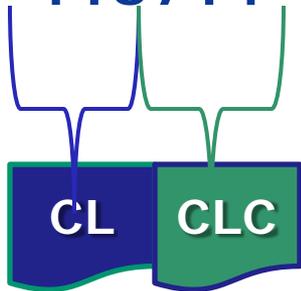
VA Medical SAS Outpatient Datasets

Clinic Stop Examples

- **216203** Telephone Audiology Rehab Support Service
- **216204** Telephone Speech Rehab Support Service
- **216210** Spinal Cord Injury Telephone Support



- **116329** Respiratory Therapy Procedures
- **116714** Respiratory Therapy Education



Outpatient Visit File (SF)

- One record per visit
- One VA facility per visit
- Up to 15 primary clinic stops per visit at the given facility
- No diagnosis or procedure information

Top 5 Primary Clinic Stops in FY2012
Visit File (from first 3 million records)

Primary Clinic Stop Code	Name	%
108	LABORATORY	20
323	PRIMARY CARE MEDICINE	12
338	TELEPHONE PRIMARY CARE	5
502	MENTAL HEALTH CLINIC- INDIVIDUAL	4
105	X-RAY	3

Outpatient Event File (SE)

Top 5 *Secondary* Clinic Stops in
FY2012 in Event File (from first 3
million records)

Secondary Clinic Stop Code	Name	%
(None)		63
117	NURSING	8
125	SOCIAL WORK SERVICE	4
185	PHYSICIAN EXTENDER (NP)	2
323	PRIMARY CARE MEDICINE	2

- One record per clinic stop
- One secondary clinic stop per record
- No limit on # records/day
- Combines diagnostic and procedural information in one dataset

Outpatient Event (SE) File

- **ICD-9 Codes: Up to 10 diagnoses per record**
- **CPT-4 Codes:**
 - Until FY2004: 15 procedures, no repeats allowed
 - Since FY2005: 20 procedures, repetition allowed
- **Since FY2003, Encounter ID**
 - Links Event dataset with HERC Outpatient Average Cost Dataset

Inpatient Encounters File (IE)

- Encounter in clinic during inpatient stay
- Excludes services in outpatient SE file
- Data available beginning FY2005

Top 5 Primary Clinic Stops in FY2012
Inpatient Encounters File (from first 3 million records)

Primary Clinic Stop Code	Name	%
105	X-RAY	9
202	RECREATION THERAPY SERVICE	8
205	PHYSICAL THERAPY	7
166	CHAPLAIN SERVICE-INDIVIDUAL	6
116	RESPIRATORY THERAPY	6

Topics for Today



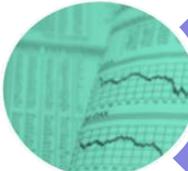
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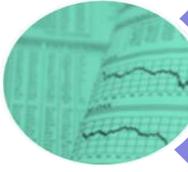
Overview of Medical SAS datasets



Finding information in the Medical SAS datasets



Examples of VA studies that have assessed healthcare use



Where to go for more help

Finding Information in the Medical SAS Datasets

VIREC INTRANET

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

VA INFORMATION RESOURCE CENTER (VIREC)

- VIREC Home
- VA/CMS Home
- About Us
- New Users of VA Data
- Data Transition to CDW
- News & Updates
- FAQs
- Acronyms
- HelpDesk

Delivering current news right to your inbox.
[Learn More...](#)

Data Issues Brief, August 2013

Upcoming Cyber Seminar

Medical Care Journal: HIT in VHA Research

VIREC News & Updates

Data Transition to CDW

At a Glance

[Introduction to VIREC and VA data](#): Learn about VIREC's role in VA research and how to navigate our website.

[Data Issues Brief](#): VIREC's monthly newsletter provides researchers current news and updates.

[HSRData-L Listserv](#): Join our virtual community of VA

Resources for Researchers

[Data Sources and Data Topics](#): Select a specific data source or data topic described by VIREC.

[Research User Guides \(RUGs\)](#): Detailed descriptions of select VA data sources, including variable descriptions.

[Data Reports](#): A complete list of technical reports, data

Where do you usually go to find information about VA data?

Write your answer on the white board!

Finding Information in the Medical SAS Datasets

Note: Information in each Research User Guide is current and accurate for the fiscal years noted in the publication or as of the date released. While previous issues of these guides may be of use to researchers, it is important to remember archived information may no longer be accurate.

Research User Guides

Assistant Deputy for the Undersecretary of Health (ADUSH) Enrollment File

[VIReC Research User Guide: 1999-2006 VHA Assistant Deputy Under Secretary for Health \(ADUSH\) Monthly Enrollment File](#)

Released: December 2006

Abstract

Decision Support System (DSS)

[VIReC Research User Guide VHA DSS Clinical National Data Extracts 2nd Edition](#)

Released: September 2009

Abstract

Archive

Medical SAS Datasets

[VIReC Research User Guide: Fiscal Year 2009 VHA Medical SAS[®] Inpatient Datasets](#)

Released: February 2011

Abstract

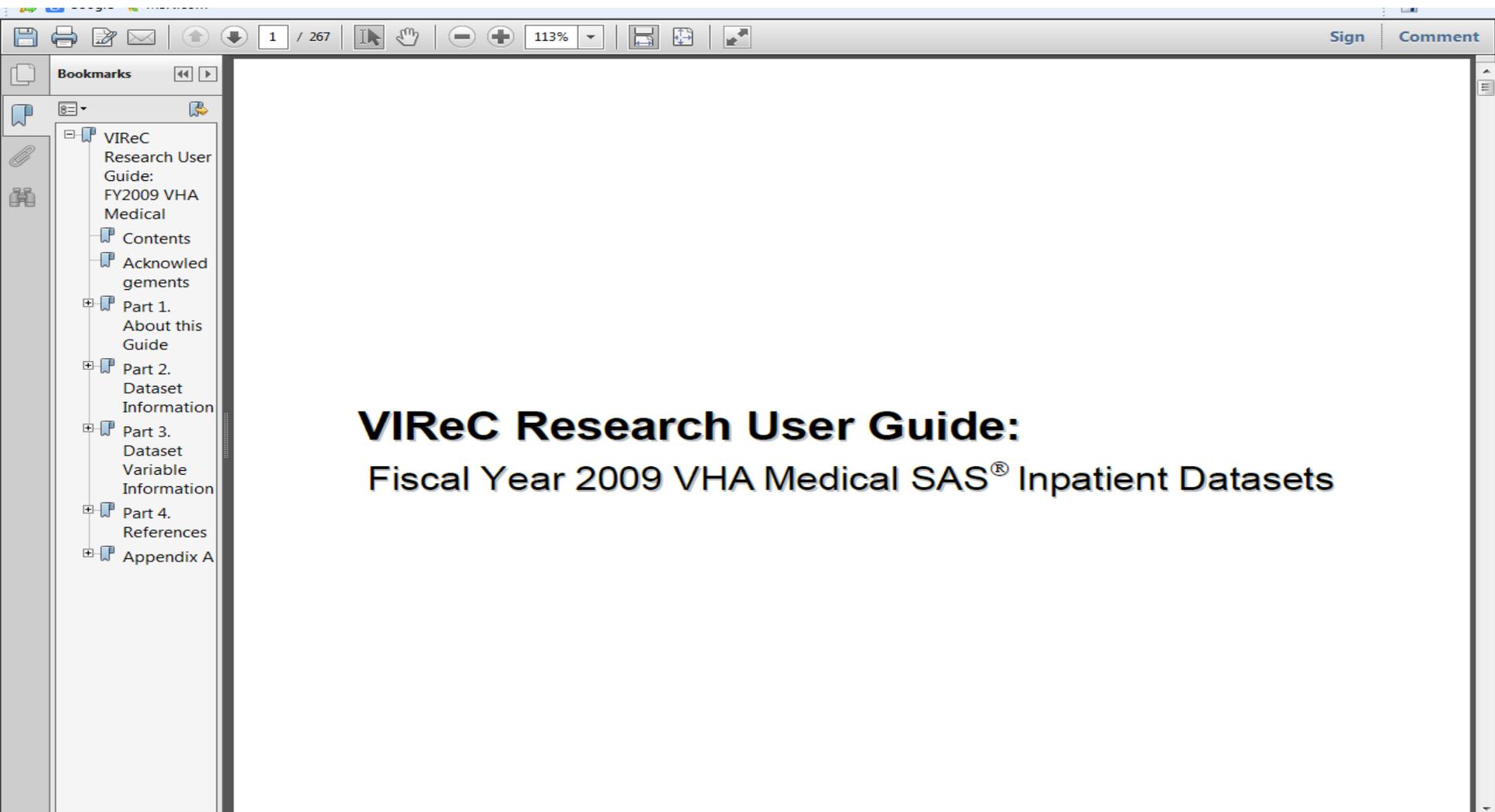
[VIReC Research User Guide: Fiscal Year 2009 VHA Medical SAS[®] Outpatient Datasets & Inpatient Encounters Dataset](#)

Released: April 2011

Abstract

Archive

Finding Information in the Medical SAS Datasets



The image shows a screenshot of a PDF viewer interface. The top toolbar includes icons for file operations (save, print, copy, paste, delete) and navigation (back, forward, search, zoom in, zoom out). The address bar shows '1 / 267' and a zoom level of '113%'. On the right side of the toolbar, there are 'Sign' and 'Comment' buttons. On the left side, there is a 'Bookmarks' panel with a tree view of the document's structure. The main content area is mostly blank, with the title text overlaid in the center.

VIREC Research User Guide:
Fiscal Year 2009 VHA Medical SAS[®] Inpatient Datasets

Table of Contents:

- VIREC
 - Research User Guide:
 - FY2009 VHA Medical
 - Contents
 - Acknowledgements
 - Part 1. About this Guide
 - Part 2. Dataset Information
 - Part 3. Dataset Variable Information
 - Part 4. References
 - Appendix A

Finding Information in the Medical SAS Datasets

3.1 List of Variables and their Dataset Locations

This section lists variables and their dataset locations for the fiscal year (FY) 2009 VHA Medical SAS[®] Inpatient Acute Care Main, Bed Section, Procedure and Surgery datasets. An X in the frequency column indicates VIREC provides additional summary information for this variable in *VIREC Select Variable Frequencies: Medical SAS[®] Datasets* [18].

Table 5. FY09 VHA Medical SAS[®] Inpatient Variables and their Dataset Locations

Name	Definition	Main	Bed Section	Surgery	Procedure	Frequency
ABO	Number of days a patient was out of the hospital on pass during an inpatient stay	X				
ADMITDAY	Date of admission of the inpatient stay	X	X	X	X	
ADMITMO	Month of admission of the inpatient stay	X				
ADMITYR	Year of admission of the inpatient stay	X				
ADTIME	Time of admission of the inpatient stay	X	X	X	X	
AFIX	Indication of whether the admission was to a substation of the parent hospital	X				
AG15Y	Categorical recoding of AGE (Age In Years) into 15 groupings	X				X
AG8R	Categorical recoding of AGE (Patient age in years at discharge) into 8 groupings	X				X
AG9R (Note 1)	Categorical recoding of AGE (patient age in years at the time of visit) into 9 groupings	X				

List of Variables and their Dataset Locations

Variable Name: DXLSF

Variable Name: DXLSF

Definition: Primary ICD-9-CM diagnostic code responsible for the patient's full length of stay in the hospital.

Remarks: DXLSF is the "primary" diagnosis, rather than the "principal" diagnosis (DXPRIME, the diagnosis determined to be the reason for admission) used in many other facilities (for a domiciliary, it is the diagnosis of "greatest clinical significance"). Until FY1981, ICD-8-A was used, and only the first four digits were defined except in special cases. Until FY1986, admitting diagnosis, DXAFULL, was also in the SAS[®] datasets. DXAFULL was eliminated since it was usually identical to primary diagnosis at discharge. In FY1997, the admitting diagnosis was reestablished as DXPRIME. Currently, DRG codes (see DRG) are based on DXPRIME. This is consistent with coding recommended by the Department of Health and Human Services (DHHS) through its SAS[®] dataset subcommittee definitions.

Data Type	Character
Print Format	None
Label	DX LOS-FULL STAY (ICD9) (6-digit) FY1999-FY2005 PRIMARY DX LOS - FULL STAY (ICD9) (6-DIGIT), FY06-to date

Finding Information in the Inpatient Medical SAS Datasets to assess Admission and Discharge

■ All inpatient datasets include:

- Admission date and time
- VISN and station number (facility)
- Discharge date and time
- Discharge status
- Discharge type



What if you are only interested in veterans' healthcare use?

Can I identify non-veterans for exclusion?

- **Small number of patients (1-2%) receiving healthcare in VHA are not Veterans**

- VA employees
- Veterans' family members



- **In the MEDSAS Datasets**

- Indicates if a particular stay or visit is covered because the patient is a Veteran
- HERC's Technical Report: A Guide to Identifying Non-Veteran Records in the Inpatient and Outpatient Databases, 2006

Excluding non-Veterans from MEDSAS Data: HERC Methods, 2006

- Used the variables: Means Test, Period of Service, Compensation & Pension Status (Inpatient), & Eligibility (Outpatient)
- **Results:**
 - Overall, non-Vets made up 0.97% of Inpatient records and 2.17% of Outpatient records
 - For females, non-Vets made up 11.77% of Inpatient records and 22.09% of Outpatient records

To identify non-veterans

Use the VSF

■ VA Vital Status File

- Created for best source of death dates
- Also contains a VET FLAG
- Two VSF that comprise info from multiple sources, including MEDSAS, DSS, enrollment files, others:
 - **Master File:** 17.3 million any VHA individuals
 - **Mini File:** 15.4 million only those with “proof of veteran status” in one source
 - Difference in Files (about 2 million) indicates those using VHA who may not be veterans

Finding Information in the Inpatient Medical SAS Datasets to assess Physician Specialty

- **BEDSECN** variable identifies specialty of physician managing patient's care
 - Found in Bed Section and Procedure datasets
 - Contains treating specialty code
 - One inpatient stay may have many bedsection stays



Finding Information in the Inpatient Medical SAS Datasets to assess Diagnoses

■ **DXLSF: Primary Diagnosis for Admission**

- Diagnosis initially assigned at admission
- May be different than DXPRIME if diagnosis changes after study/test results
- Not coded by HIM

■ **DXPRIME: Principal Diagnosis**

- Condition which, after study, is determined chiefly responsible for the admission to the hospital.
- Codes assigned by professional coders (HIM)
- Leads to the calculation of the DRG

Finding Information in the Inpatient Medical SAS Datasets to assess Diagnoses

■ DXF2 – DXF13*

- Secondary ICD-9-CM diagnosis codes for full hospital stay
- MAIN data set only

■ DXLSB, DXB2-DXB5

- Diagnoses related to the Bed Section stay

* Number of secondary diagnoses codes changed from 9 to 12 in FY2005

Finding Information in the Inpatient Medical SAS Datasets to assess Procedures

- Procedure datasets contain:
 - Procedures not performed in an operating room
 - Dialysis type & number of dialysis treatments
- Surgery datasets contain:
 - Surgeries performed in operating room
- A “procedure” in one facility may be considered “surgery” in another facility. Check both datasets.
- Inpatient MedSAS datasets use ICD-9 procedure codes



Finding Information in the Inpatient Medical SAS Datasets to assess Length of Stay

- Records are created at discharge for the full stay, even if the admission was in a prior year
 - **Exception:** Claims for Non-VA Care included in dataset for year paid, not for year of care
- Inpatient dataset includes length of stay
 - **LS** = $[(DISDAY - ADMITDAY) - (ABO + PASS)]$
with minimum value of 1



Finding Information in the Outpatient Medical SAS Datasets to assess Use by Diagnoses

–Outpatient Event (SE)

- 1997 to present

–Inpatient Encounters (IE)

- 2005 to present

– DXLSF

- Primary diagnosis

– DXF2-DXF10

- Secondary diagnoses

Top 5 DXLSF in FY2012 SE File (from first 3 million records)

DXLSF	Values	%
30981	Posttraumatic stress disorder	5
V6540	Other counseling NOS	4
V6549	Other specified counseling	4
4019	Unspecified essential hypertension	4
25000	Diabetes mellitus without mention of complication	4

Finding Information in the Outpatient Medical SAS Datasets to assess Use of Procedures

- Outpatient Event (SE)
- Inpatient Encounters (IE)
- **CPT1-CPT20***
- CPT-4 Codes

Top 5 CPT1 Codes in FY2012 SE File
(from first 3 million records)CPT

CPT1	Values	%
98966	Telephone assessment by non-physician	8
99213	Moderate severity OP visit for established patient	5
99211	Minimal severity OP visit for established patient	4
99214	High severity OP visit for established patient	4
85025	CBC	3

*Number of CPT codes changed from 15 to 20 in FY2005

Finding Information in the Outpatient Medical SAS Datasets to assess Use by Provider Types

Top 5 Provider Types in FY2012 SE File (from first 3 million records)

- Physician specialty recorded using CMS provider class

- **PROV1-PROV10**

- Outpatient Event (SE)

- Inpatient Encounters (IE)

Provider Types	Values	%
181000	INTERNAL MEDICINE	11
182402	PATHOLOGY	9
070900	REGISTERED NURSE	8
115500	RESIDENT ALLOPATHIC	4
070804	LICENSED PRACTICAL NURSE	4

Topics for Today



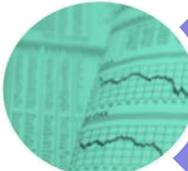
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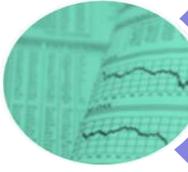
Overview of Medical SAS datasets



Finding information in the Medical SAS datasets



Examples of VA studies that have assessed healthcare use



Where to go for more help

Research Example I

Mortensen, Copeland, Pugh, et al., *Am J Medicine*
2010;123:66-71

- **Objective:** To assess frequency of diagnosis of pulmonary malignancy, after hospitalization for pneumonia
- **Study Design:** Retrospective cohort, VA inpatients from FY2002-2007, age ≥ 65 years
- **Data Sources:** VA Inpatient and Outpatient MedSAS Datasets, among others
- **Use Construct:** Events after hospitalization

CLINICAL RESEARCH STUDY

THE AMERICAN
JOURNAL of
MEDICINE

Diagnosis of Pulmonary Malignancy after Hospitalization for Pneumonia

Eric M. Mortensen, MD, MSc,^{a,b} Laurel A. Copeland, PhD,^{a,c} Mary Jo Pugh, PhD,^{a,d} Michael J. Fine, MD, MSc,^{a,f} Brandy Nakashima, MA,^a Marcos I. Restrepo, MD, MSc,^{a,g} Rosa Malo de Molina, MD,^{a,g} Antonio Anzueto, MD^{a,g}

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ABSTRACT

BACKGROUND: Many physicians recommend that patients receive follow-up chest imaging after the diagnosis of pneumonia to ensure that a pulmonary malignancy is not missed. However, there is little research evidence to support this practice. Our aims were to assess the frequency of the diagnosis of pulmonary malignancy, and to identify risk factors for pulmonary malignancy following hospitalization for pneumonia.

METHODS: By excluding patients with a prior diagnosis of pulmonary malignancy, we examined the incidence of a new pulmonary malignancy diagnosis in inpatients aged ≥ 65 years with a discharge diagnosis of pneumonia in fiscal years 2002-2007, and at least 1 year of Department of Veterans Affairs outpatient care before the index admission.

RESULTS: Of 40,744 patients hospitalized with pneumonia, 3760 (9.2%) patients were diagnosed with pulmonary malignancy after their index pneumonia admission. Median time to diagnosis was 297 days, with only 27% diagnosed within 90 days of admission. Factors significantly associated with a new diagnosis of pulmonary malignancy included history of chronic pulmonary disease, any prior malignancy, white race, being married, and tobacco use. Increasing age, Hispanic ethnicity, need for intensive care unit admission, and a history of congestive heart failure, stroke, dementia, or diabetes with complications were associated with a lower incidence of pulmonary malignancy.

CONCLUSION: A small, but clinically important, proportion of patients are diagnosed with pulmonary malignancy posthospitalization for pneumonia. Additional research is needed to examine whether previously undiagnosed pulmonary malignancies might be detected at admission, or soon after, for those hospitalized with pneumonia.

Published by Elsevier Inc. • *The American Journal of Medicine* (2010) 123, 66-71

KEYWORDS: Cancer; Incidence; Pneumonia

Funding: The project described was supported by Grant Number R01NR010628 from the National Institute of Nursing Research. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Nursing Research or the National Institutes of Health. This material is the result of work supported with resources and the use of facilities at the South Texas Veterans Health Care System. Dr Copeland is funded by Merit Review Entry Program grant MRP-05-145 from the VA Health Services Research and Development program. Dr Restrepo is funded by a KL2 of the National Institutes of Health and the University of Texas Health Science Center at San Antonio. The funding agencies had no role in conducting the study, or role in the preparation, review, or approval of the manuscript.

Conflict of Interest: None of the authors have any conflicts of interest to disclose regarding this article.

Authorship: All authors had free access to the data and were actively involved in writing the manuscript.

The views expressed in this article are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs.

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0002-9343/\$ -see front matter Published by Elsevier Inc.
doi:10.1016/j.amjmed.2009.08.009

Research Example I

Mortensen, Copeland, Pugh, et al., *Am J Medicine*
2010;123:66-71

■ Inclusion/exclusion criteria

- Were age 65 years or older on the date of admission
- Had at least one outpatient clinic visit in the year preceding the index admission
- Received at least one active and filled outpatient medication within 90 days of admission
- Hospitalized during FY 2002-2007
- Had a previously validated discharge diagnosis of pneumonia/influenza

Research Example I

Mortensen, Copeland, Pugh, et al., *Am J Medicine*
2010;123:66-71

Variables	Post Hospitalization w/Pulmonary Malignancy (N=3760)	No Pulmonary Malignancy (N=36,984)	P- value
Hospitalization- ICU	285 (8)	5471 (15)	<.001
Hospitalization- mechanical ventilation	105 (3)	2627 (7)	<.001
Mortality at 30d	48 (1)	5222 (14)	<.001
Mortality at 90d	267 (7)	8184 (22)	<.001
Length of Stay	6.21 (7.4)	8.1 (13.3)	<.001

Research Example II:

Luther, Neumayer, Henderson, et al., *Am J Surg*
2013;206:72-79

The American Journal of Surgery (2013) 206, 72-79

The American
Journal of Surgery

Clinical Science

The use of breast-conserving surgery for women treated for breast cancer in the Department of Veterans Affairs

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KEYWORDS:

Breast cancer;
Women;
Breast-conserving
surgery;
Veterans

Abstract

BACKGROUND: Previous non-stage-adjusted research described a lower use of breast-conserving surgery (BCS) for the treatment of breast cancer in the Veterans Health Administration (VHA) facilities than in the private sector.

METHODS: We combined data from the VHA Centralized Cancer Registry with administrative datasets to describe surgical treatment for locoregional breast cancer in VHA facilities from 2000 to 2006.

RESULTS: When considering only procedures performed in VHA facilities, BCS rates decreased from 50.5% (53/105) in 2000 to 42.3% (n = 58/137) in 2006; however, after accounting for procedures conducted in the private sector and paid for by the VHA, BCS rates approached those experienced in breast cancer patients cared for outside the VHA.

CONCLUSIONS: Based solely on procedures performed in the VHA, rates of BCS use are much lower in the VHA than in the private sector. We were able to show similar rates of BCS use when we accounted for procedures paid for by the VHA but performed at an outside facility. Further exploration and prospective analyses to examine these findings are needed.

Published by Elsevier Inc.

Supported by the Department of Veterans Affairs, Veterans Health Administration, Office of Research and Development, Health Services Research and Development IR 06-053.

The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.

Presented in part at the 2010 VA Women's Health Services Utilization Conference, July 15, 2010, Arlington, VA.

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Manuscript received February 1, 2012; revised manuscript June 26, 2012

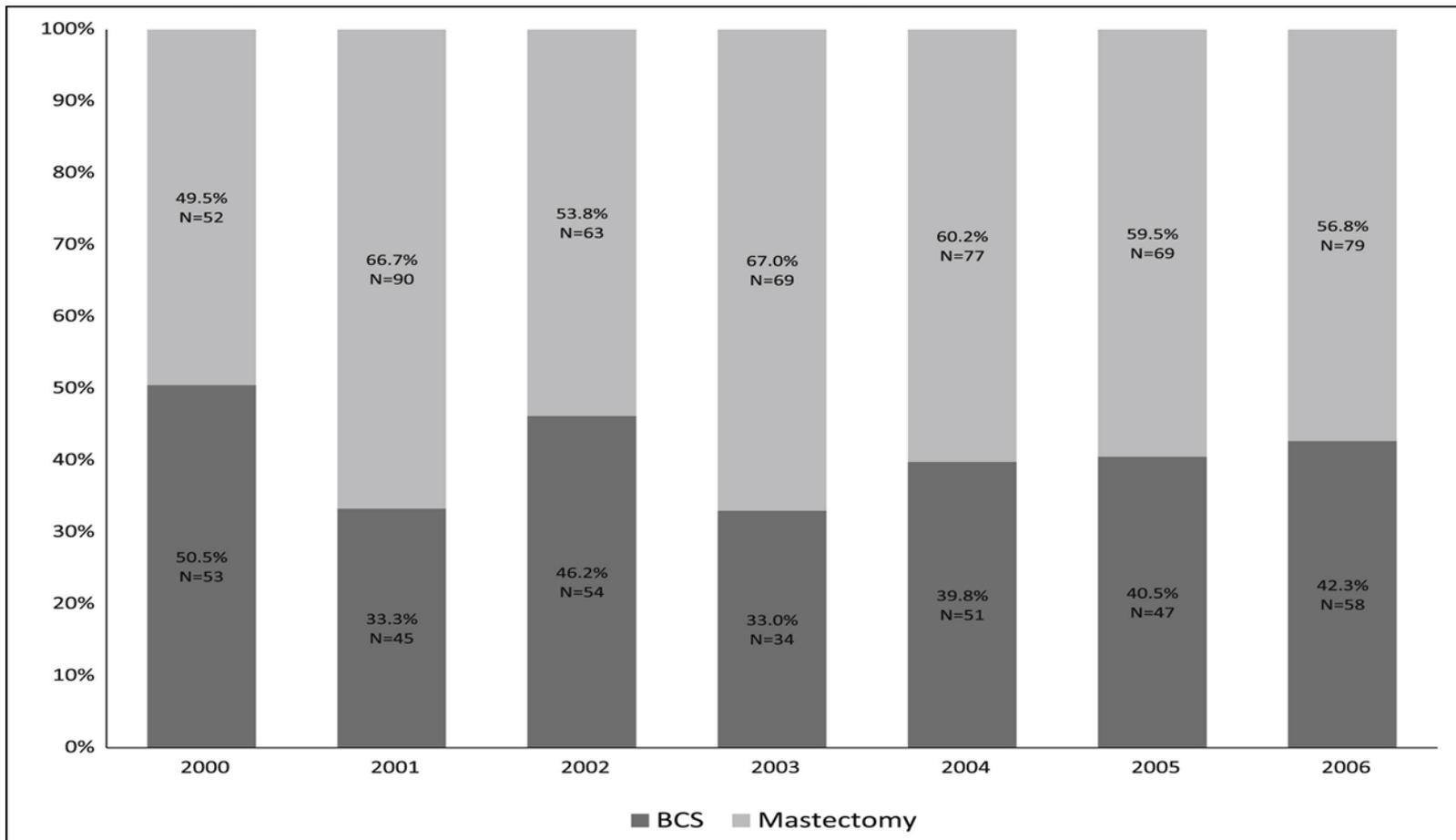
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<http://dx.doi.org/10.1016/j.amjsurg.2012.08.012>

- **Objective:** To conduct stage-adjusted analyses of the utilization rates of breast-conserving surgery
- **Study Design:** Retrospective cohort study of women Veterans diagnosed or receiving their initial treatment for breast cancer in 2000-2006 at VHA facilities
- **Data Sources:** VA Inpatient and Outpatient MedSAS Datasets, among others
- **Use Construct:** Surgical procedures

Research Example II:

Luther, Neumayer, Henderson, et al., *Am J Surg*
2013;206:72-79

Figure 1. The use of BCS and mastectomy in the VHA, 2000 to 2006.



Topics for Today



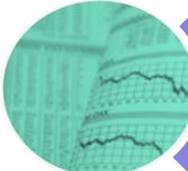
How has healthcare utilization been measured in VA studies?



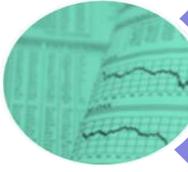
Overview of Medical SAS datasets



Finding information in the Medical SAS datasets



Examples of VA studies that have assessed healthcare use



Where to go for more help

Obtaining Help

■ VIReC Website

- <http://www.virec.research.va.gov>
 - Research User Guides (RUGs)
 - Variable-level information
 - Technical Reports
 - Web-site “Toolkit for New Users of VA Data”
 - Monthly Data Issue Briefs

■ Help Desk

- virec@va.gov
- (708) 202-2413

Obtaining Help

HSRData Listserv

- Join at VIREC's Intranet Web site
- Exchange of current information, ideas, questions, and answers about data and informatics issues affecting VA research
- Discussion among close to 700 VA only researchers, data stewards, managers, and other users
- Searchable archive of past discussions

Questions?

Next session:

January 6, 2014

Measuring Veterans Health Services Use in
VA and Medicare

Kristin de Groot, MPH

