

VIReC Partnered Research Cyberseminar Series

Data for nursing research in VA: Finding it, using it, improving it

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Poll Question #1: What are you interested in doing with VA data focused on nursing?

- Write a proposal
- Write a paper
- Use it for operational purposes
- Nothing right now; interested in a general sense

Impetus for this work

- Data questions from nurse researchers, nurse executives and others concerned about understanding nursing and its impact in VHA
 - Data summit held in June 2013
 - Discussed data requirements for nursing
 - Participants included
 - Office of Nursing Services (ONS)
 - Veterans Support Service Center (VSSC)
 - VA Inpatient Evaluation Centers (IPEC)
 - Office of Performance Measurement
 - Researchers

Identifying VA Data Sources

- Funded by ONS to develop and report on data sources
- Describe data sources by ONS portfolio
 - ONS portfolios include
 - Workforce and Leadership
 - Clinical Practice
 - Policy, Education and Legislation
 - Research and Evidence Based Practice

Focused on key nursing-sensitive indicators

- Nursing inputs
 - Nursing hours per patient day
 - Skill mix
- Outcomes
 - Falls
 - Hospital acquired pressure ulcers
 - Ventilator associated pneumonia/events
 - Catheter associated urinary tract infection
 - Central line associated bloodstream infection
 - Readmissions
 - Outpatient metrics

Poll #2: Do you work for the VA?

- Yes, full time (8/8)
- Yes, part time (<8/8)
- No, but I work without compensation (WOC)
- No, I don't work for the VA at all

The input side: Staffing Data in VHA

- Ultimately, all staffing data derives from the Personnel and Accounting Integrated Data (PAID) system
 - Payroll
 - All VHA employees are in this system
 - Time and attendance (T&A) are documented through
 - VistA (local hospital data systems) or
 - VATAS (new Time and Attendance system that is web-based rather than local hospital based)
 - Transition happening between the older system (VistA) and newer system (VATAS)

Being present doesn't mean you did direct care

- Most nursing personnel in VHA provide direct care to patients
 - In many settings
 - Inpatient, outpatient, perioperative care, home-based primary care, community living centers
 - But many do not routinely provide direct care— but sometimes do
 - Nurse managers
 - Nurse educators
 - Others

Being present also doesn't mean you worked in your normal job

- The PAID system allows us to distinguish people working from people taking annual leave (vacation), sick leave, other types of leave
- But people do different kinds of things while they are working, even if they normally deliver direct care
 - Educational time
 - Light duty (often after an injury)
 - Other duties

The PAID system tells us where you work

- Most of the time
 - For nursing personnel, their time is recorded within their T&L group
 - Usually corresponds (mostly) to a specific nursing unit
 - But not always
 - And the individual nurse may have worked on a different unit for a shift
 - “Floating”
 - Nurses who float usually still get paid from their regularly assigned unit

All of which can create confusion

- And some error in the data
- We don't really know how much
- Or how much it matters

Poll #3: How perfect should data be in order to publish a manuscript based on it?

- 100%
- 90%
- 75%
- 50%
- I don't know

Sources of staffing data within VHA

- PAID is the ultimate source of all staffing data
 - But most people don't get access to or use PAID
 - Highly sensitive data (it lists what you got paid, when you worked, when you had sick leave... many people would rather talk about their sexual partners than this kind of information)
 - There are many other sources

Management Cost Accounting (MCA, formerly DSS- Decision Support System)

- Many useful types of data
 - Ward or unit level data
 - Nursing inputs
 - Patient identification
- Mostly accessed for research purposes through the Corporate Data Warehouse (CDW)
- Some types of information from MCA are available through VSSC portals
 - But may require Form 9957 approval in order to access (VA Form 9957 is required except for national VISN Real SSN – see data portal website for access info)

Example: Inpatient nursing data by unit cluster/type

For Government Use Only

Data Definitions Help Desk Contact Us

DSS Nursing Hours/Costs by Ward and Ward Day of Care

This report was designed to be useful to management at all levels for assessing nurse staffing needs, nurse staffing ratios, and thresholds for adequacy of nurse staffing numbers for various types of wards at all VHA Medical Centers. A variety of report selections are available to provide Nursing (RN, LPN, NA and Tech) or Contract Labor information by Hours or Dollars and by Categories such as Worked or Paid, which can be further broken down into Regular, Overtime, or Vacation/Sick/Holiday Hours or Dollars. Total Patient Ward Hours, Total Ward Days, and Actual Nursing or Contract BOC Hours or Dollars for each Labor/Skill Mix Type per Ward Day can be displayed. A selection for Medical Center Grouping (MCG), also known as the Facility Complexity Level, is available at the station finest breakout level for workload and cost comparisons among stations of equal size or complexity. Nursing Hours/Dollars source data: ALB NDE-PAID file. Ward Hours/Ward Day of Care source data: MCA WARD NDE.

Fiscal Year	Ending Month	Separate Months	Summary Level	Finest Breakout Level	Report Selection	Type of Report	Category
2015	January	No	National	None	ALL Cost Centers minus Contract BOC	Hours	Worked (REG & OT)
2014	February	Yes	Network	Facility	All Cost Centers for Contract BOC only	Dollars	Paid (REG, OT, VSH)
2013	March		Station	Division	Cost Center 241 minus Contract BOC		Regular (REG)
2012	April		Facility		Cost Center 241 Contract BOC only		Overtime (OT)
2011	May						Vacation/Sick/Hol (VSH)

Enter Text and Click on or

MCG Level	Select Locations:	Select DSS Production Unit:
ALL	358: MANILA VA CLINIC	Select All
1a	402: TOGUS VA MEDICAL CENTER	GLC Cluster
1b	405: WHITE RIVER JUNCTION VA MEDICAL CENTER	Critical Care Cluster
1c	436: FORT HARRISON VA MEDICAL CENTER	MH- Acute Cluster
2	437: FARGO VA MEDICAL CENTER	Medical Unit Cluster
3	438: ROYAL C. JOHNSON VETERANS MEMORIAL HOSPITAL	Mixed MedSurg Cluster
Unk	442: CHEYENNE VA MEDICAL CENTER	SCI/D Acute Cluster
	459: SPARK M. MATSUNAGA DEPARTMENT OF VETERANS AFFAIRS MEDICAL CENTER	Step Down Cluster

Some combinations of selection criteria create large data not suitable for quick access in HTML format.

- <https://mcareports.va.gov/sas/nurseinp.asp>
- Need Form 9957 permission to access data (VA Form 9957 is required except for national VISN real SSN – see data portal website for access info)
- Provides quick view of staffing with several customizable parameters

Veterans Service Support Center (VSSC)

- First, an opportunity (like most links in this presentation, need to be inside VA intranet to use):
<http://training.vssc.med.va.gov/Pages/Nursing.asp>
X
 - VSSC uses specific types of data objects, ProClarity cubes
 - The “Nursing Overview” presentation on this page is very helpful if you haven’t used ProClarity
 - Archived webinars are also available

VSSC is a portal into a number of resources

- <http://vssc.med.va.gov/>
- Of interest in nursing research:
 - Clinical Care
 - VA Nursing Outcomes Database (VANOD)
 - Resource Management
 - Human Resources
 - Quality and Performance
 - Patient Centered Care

The screenshot shows the VSSC portal interface. At the top, there is a navigation bar with links for Home, My Metrics, My VSSC, News, Portals, Support, Training, and Your Acceptance Testing. Below this is a main content area with several columns of links categorized into Business Operations, Capital and Planning, Clinical Care, Patient Centered Care, Quality & Performance, Resource Management, Special Focus, Access & Clinic Administration, and Workload. A search bar and a 'Check Your Access Levels' button are also present. The footer includes a 'VSSC Top Links' section with links to Pyramid Cube Library, Cube Library, PHUSRN Access Request, and Data Use Agreement, as well as a 'VSSC Partners' section.

VA Nursing Outcomes Database (VANOD)

The screenshot displays the VA Nursing Outcomes Database (VANOD) interface. The page title is "NURSING OUTCOMES (VANOD)". Below the title, there are links for "Learn more about", "Frequently Asked Questions", and "Training Resources". A filter section allows users to click on a subject area button to filter the product list below. The filter options are: Nursing Administrative, Nursing Clinical, Nursing Satisfaction, and Nursing Summary Reports. Below this, there is a section for filtering by product type, with a link to "PRODUCT TYPE HELP". A table of products is displayed with the following columns: TYPE, PRODUCT NAME/DESCRIPTION, PHI, DATA DEF, SAMPLE DOC, and ADD TO MY VSSC. The table contains the following rows:

TYPE	PRODUCT NAME/DESCRIPTION	PHI	DATA DEF	SAMPLE DOC	ADD TO MY VSSC
ADT Reports					
	Demographic & Financial Briefing Book				
	Demographic & Financial Cube				
	DSS Nursing Hours/Costs by Ward and Ward Day of Care				
	DSS Nursing Hours/Costs/Workload by Clinic and Outpatient Encounter				
	Managing Scanning Failures				
	Nursing Dashboard (MS Excel Services)				

- <http://vssc.med.va.gov/products.asp?PgmArea=20>
- Specific to nursing
- Has been a joint effort of ONS, Health Informatics, and VSSC
- Provides a great deal of information useful for nursing research

Admissions, Discharges and Transfers (ADT)

The screenshot displays the VSSC ADT report interface. The report is titled "Admissions, Discharges, & Transfers (ADT) by Nursing Unit - Facility Detail" for Facility (V11) (506) Ann Arbor, MI, covering the period FY2015. The report is updated as of 6/5/2015 12:42:00 AM. The data is presented in a table with columns for Nursing Unit, Nursing Unit Type, Admissions, Transfers In, Total Gains, Transfers Out, Discharges, and Total Losses. A sidebar on the left shows a document map with "ADT_Fac" selected. A "View Report" button is visible in the top right of the report area.

Nursing Unit	Nursing Unit Type	All ADT					
		Adm	Transfers In	Total Gains	Transfers Out	Disch	Total Losses
5E	Acute - Mixed Med-Surg	502	151	713	79	623	702
5N	Acute - Mixed Med-Surg	204	75	279	51	243	294
5PCU	Acute - Step Down	282	344	606	298	305	603
5SICU	Acute - Critical Care	368	219	587	502	84	586
5W	Acute - Mixed Med-Surg	837	157	994	96	891	987
6S	Acute - Step Down	993	287	1280	190	1090	1280
AMH	Acute - Mental Health Acute	371	32	403	20	385	405
NH	Continuing Care - Community Living Center (CLC)	254	0	254	2	257	259
Unassigned NU	Unknown	653	3	656	33	620	653

- Customizable report
- Provides quick snapshots for specific date ranges
- Unit specific

Poll #4: How important are unit-level data?

- Not important– I'm interested in the whole facility
- Somewhat important– could be an important level
- Critical– the work I do focuses on the unit level exclusively
- Not sure/not relevant

Nursing Unit Mapping Application (NUMA)



United States Department of Veterans Affairs
VHA Support Service Center (VSSC)

Home Nursing Locations Reports Contact

Nursing Unit Mapping Application

Logged in as 'VHA11\YHAA\N\SalesA'

Nursing Unit Mapping Application Overview Version 2.0 (April 2011)

A top priority of the Office of Nursing Services Informatics team is to provide recognizable inpatient nursing location names and nursing location level data in their data products. This application will allow facility level users to create a crosswalk between MAS wards and nursing locations.

Once the crosswalk is populated, inpatient nursing level data will be available in VANOD clinical and RN Satisfaction reports.

NOTE: Any changes made via this application do not update the source files (i.e. nursing location file in the nursing package and DSS), therefore, **updates to those source files also need to be completed.**

This application is broken into the following areas:

- [Nursing Locations](#) - This area displays existing mapping of VISTA Nurse Locations to VISTA MAS Wards and DSS Production Units and allows you to edit for your facility.
- [Reports](#) - This area provides links to reports that have been developed for this application
- [Contact](#) - This area provides point of contact details

Questions concerning this application may be directed to one of the individuals listed on the [contact page](#).

USA.gov | VA Home | VA Intranet | VHA Intranet | VHA Program Offices | VHA Intranet Documents | VSSC Intranet | Contact VSSC Help Desk & Webmaster | Intranet Privacy Policy | No FEAR Act Notice | Accessibility | Web Policies and Important Links



United States Department of Veterans Affairs
VHA Support Service Center (VSSC)

Home Nursing Locations Reports Contact

Nursing Unit Mapping Application

Logged in as 'VHA11\YHAA\N\SalesA'

Manage Nursing Location Mapping(s) for (V11) (506) Ann Arbor, MI

Back

Show Only: Nursing Location(s)

	Nursing Location	VANOD Unit Type	MAS Ward(s)	DSS ALBCC(s)	T&L(s)	Targeted NHPPD	Total Ceiling
<input type="button" value="VIEW"/>	SE	Acute - Mixed Med-Surg	SE-MED, SE-NEURO, SE-SURG	241FF1 - UFF1 - Wards Mixed Med/Surg 2	126	8.00	27.00
<input type="button" value="VIEW"/>	SPCU	Acute - Step Down	5MPCU, SPCU	241E21 - UE21 - TICU, 241E21T - UE21T - TICU, 241E71T - UE71T - PCS*PCU*AARM			0.00
<input type="button" value="VIEW"/>	SSICU	Acute - Critical Care	5MSICU, SSICU	241E11 - UE11 - SICU	137	17.70	46.15
<input type="button" value="VIEW"/>	SW	Acute - Mixed Med-Surg	5W, 5W-NEURO, 5WS	241FQ1 - UFQ1 - PCS*SW MED SURG NEURO*AARM	132	8.00	30.30
<input type="button" value="VIEW"/>	6S	Acute - Step Down	6SM, 6S-NEURO, 6SS	241E21 - UE21 - TICU, 241E71 - UE71 - PCS*SW MED SURG NEURO*AARM	128	8.49	49.60
<input type="button" value="VIEW"/>	ADMH	Acute - Mental Health Acute	8WP, ADMH, PSYCH	241H51 - UH51 - Wards Psychiatry Acute 1	134	8.83	33.20
<input type="button" value="VIEW"/>	MICU	Acute - Critical Care	7MICU, 7SICU	241E31 - UE31 - MICU1	138	15.90	20.00
<input type="button" value="VIEW"/>	NH	Continuing Care - Community Living Center (CLC)	CLC-GEM A, CLC-GEM B, CLC-GEM C, CLC-GEM D, CLC-PC, CLC-PM&R, NH-GEM, NH-LTC, NH-PM&R, NH-REHAB	241G11 - UG11 - Wards - Routine NHCU 1	142	5.50	49.60

USA.gov | VA Home | VA Intranet | VHA Intranet | VHA Program Offices | VHA Intranet Documents | VSSC Intranet | Contact VSSC Help Desk & Webmaster | Intranet Privacy Policy | No FEAR Act Notice | Accessibility | Web Policies and Important Links

Summary of staffing data

- Many different ways to get to data
- Most come from MCA data extracts from PAID
 - Possible to request direct access to PAID if you have reason to need it
 - Funded project/protocol
 - Access through DART
- VSSC provides a portal to data
 - Caveat: You need to declare if you intend to use data for research (vs. operations vs. preparatory to research)
 - If you do plan to use data for research, need to go through the required approvals

Nursing-sensitive outcomes/indicators

- Falls
- Hospital acquired pressure ulcers
- Ventilator associated pneumonia/events
- Catheter associated urinary tract infection
- Central line associated bloodstream infection
- Readmissions
- Outpatient metrics
- And many more...

Ventilator Associated Pneumonia/Events (VAP/E)

- Data exercise: assessing information from different sources for FY13
- Source 1: ICD 9 codes for VAP (997.31) from Inpatient Discharge Cube
- Source 2: Number of VAP infections from Healthcare Associated Infection Cube (VA Inpatient Evaluation Center– IPEC)
 - Same denominator for each: total unique patients from the Discharge Cube
 - All at VISN level for this exercise

Different sources tell different stories

VISN	Inpatients diagnosed with VAP (ICD-9-CD 997.31) from Discharge Cube*	Number of VAP Infections from HAI Cube (IPEC)	Total --Unique Patient	VAP rate (%)	
				IP Discharge Cube	HAI Cube
V01	21	9	16,716	0.13	0.05
V02	5	3	10,335	0.05	0.03
V03	8	2	13,159	0.06	0.02
V04	5	6	19,615	0.03	0.03
V05	8	4	11,478	0.07	0.03
V06	14	12	23,804	0.06	0.05
V07	23	9	23,419	0.10	0.04
V08	36	11	39,895	0.09	0.03
V09	23	8	24,800	0.09	0.03
V10	8	4	17,184	0.05	0.02
V11	14	6	16,677	0.08	0.04
V12	16	4	22,243	0.07	0.02
V15	11	3	18,448	0.06	0.02
V16	28	16	37,732	0.07	0.04
V17	13	4	20,383	0.06	0.02
V18	16	3	17,748	0.09	0.02
V19	6	0	12,539	0.05	0.00
V20	21	7	17,835	0.12	0.04
V21	30	10	18,015	0.17	0.06
V22	13	20	24,539	0.05	0.08
V23	12	2	19,748	0.06	0.01

A Tale of Two Data Sources: A Cautionary Tale

- Inpatient Discharge Cube
- ICD-9 codes
- Depends on discharge diagnosis
- Depends on coding of these diagnoses
 - No standard definition
 - No verification
 - Done daily or close to daily
 - Entered into Patient Treatment File at local site
 - Extracted into national databases
- IPEC Data Management System
- Hand counting and verification of VAP by infection preventionists
 - Exactly how this is done differs by facility
- Use standardized definition of VAP
- Data are entered as counts into web-based Data Management System
 - No identifiers
 - Unit level data entry
 - Done on a monthly basis

Poll #5: Which source do you trust more?

- Discharge cube
- IPEC Data Management System
- Neither– a pox on both their houses
- Both– trust but verify

Data sources for outcomes/indicators

- Data sources are changing constantly
 - VSSC is always a good place to start a search
 - Pre-processed data in reports and briefing books
 - CDW is increasingly a place for full-scale data extraction

Restricted access for key data sources

- Reason for access restrictions
 - Many of these data tools allow PHI (identified data) access
 - As a corporate entity, VHA would like to be sure that people with access are not malevolent
 - Audit trail
 - Your use of the data is audited and known
 - It's not that hard– but you do have to have a reason for requesting access

Any time you try to access something you'll get information about how to apply

Question: How do I apply for real SSN (Social Security) or PHI (Protected Health Information) access to VSSC or MCA (formerly DSS) web products?

Answer:

Neither the VSSC nor the MCAO (formerly DSS) grants PH/ISSN access to its web products. Access is granted either locally by the CUPS/NSDD POC (in the case of PHI only or station level real SSN access - Step 1), or by National Data Systems (NDS) in the case of VISN/Natl real SSN access - Step 2), as described below. To follow-up on an access request, contact your local POC or National Data Systems (NDS) - do not contact the VSSC or MCAO to follow-up on a data access request.

1. For station level real or PHI only access, fill out [VA Form 9957](#) electronically:

- When requesting access to VSSC workload and/or MCA web reports, check the Other box in the "Type of Access" section and specify NSDD next to it.

Functional Task codes (FTCs) are not used in the NSDD. Instead of FTCs, the 9957 should indicate one of the following in Section 3...

- PHI level access to VSSC web data
- PHI level access to DSS web data
- or- (this means one or the other, but, not both)
- Station level real SSN to VSSC web data
- Station level real SSN to DSS web data

Submit the 9957 to the facility's designated CUPS POC. [Click here to find the local CUPS POCs.](#) For PHI or station real SSN access, the local CUPS/NSDD POC will make a new or edit an existing entry in the NSDD. The VSSC does not manage this process - it is done by the local CUPS/NSDD POC, For VAACO, or any program area that does not have a CUPS/NSDD POC, Natl PHI only requests should be addressed to Linda Hudock and sent to NDS.OperationalAccessRequests@va.gov

2. For VISN or Natl real SSN access, full instructions for submitting an operational access request are described on the [VA Data Portal](#). The Operational Access Request web form is the 1st link, and it's guidebook is the 2nd link on that page.

The VSSC does not manage this process - it is done by National Data Systems (NDS).

To clarify a common misconception, an entry in the CUPS database is NOT required for access to VSSC/MCA (formerly DSS) web products. A CUPS account should not be created unless the customer needs to access data on the mainframe. VSSC/MCA web products are not on the mainframe.

The CUPS database controls access to Austin mainframe data (FMS, PAID, BIRLS, Vital Stats, etc.) and is managed by the Austin Information Technology Center (AITC). Detailed instructions for the CUPS system can be obtained from the Austin Help

- Fill out VA Form 9957*
 - State your reason for requesting access
- Submit to your Point of Contact
 - Usually your Information Security Officer
- Wait
- Check in if you haven't heard in a while

*VA Form 9957 is not required for national or VISN real SSN.

Considerations and limitations of key data sources

- Where data come from is critical
 - Lots of different ways to learn
 - Most databases in VHA have considerable documentation
 - It's good to read it
 - Ask someone if you don't understand
- Just going ahead with analysis is not a good idea if you don't understand the data you have
 - Most data stewards are incredibly willing to explain things
 - But they do prefer you read what they've already written before you ask questions

Caveat emptor- potentially a double-edged sword

- Remembering that as a researcher, you are just one link in the chain
 - You take data produced through processes outside your control
 - You manipulate it (statistical analysis)
 - You write about it
 - You then publish it in openly accessible sources
- The onus is on you as the initial “buyer” (emptor) of the data to assure that you are interpreting it to the best of your ability

There are a lot of resources out there

- Please make the effort to find them
- And use them

Some closing thoughts

- The perfect may well be the enemy of the good where data are concerned
- Data are never perfect
 - But it is essential to understand the sources and limits of all data you use
 - And ensure that your interpretation fits within the bounds of how “good” the data are
 - “Goodness” of data is a very complex property
 - Seldom simple rules of thumb
 - Expect to spend a lot of time learning about data

Where next?

- VIREC staff provide resources to VA data users by collaborating with experts and researching topics of interest to:
 - Create a knowledge base of factual knowledge
 - Disseminate information about VA data
- Staff at VIREC will be creating a topic page in the near future about the data and sources we've been discussing
- HSRData listserv is an important resource for information about specific aspects of data
 - Monitored by data stewards
 - Visit the VIREC website for information on the listserv

Questions?

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