

2011 VIReC Database and Methods Cyber Seminar Series



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

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Session Objectives

- **Introduce Series**
- **Provide brief overview of VA data sources**



Topics for Today

- **Overview of VA Databases for Research**
- **VA Databases**
- **Policies Governing Researchers' Access to Data**
- **Obtaining Help**



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Many Sources of VA Data

- **Administrative/operations data**
- **Clinical**
- **Financial**
- **Data from other agencies**
- **Veteran Population Surveys**



Levels of Data

- **Local Facility Level**

- Information may reside only at local facility

- **VA Network Level: VISN Warehouses**

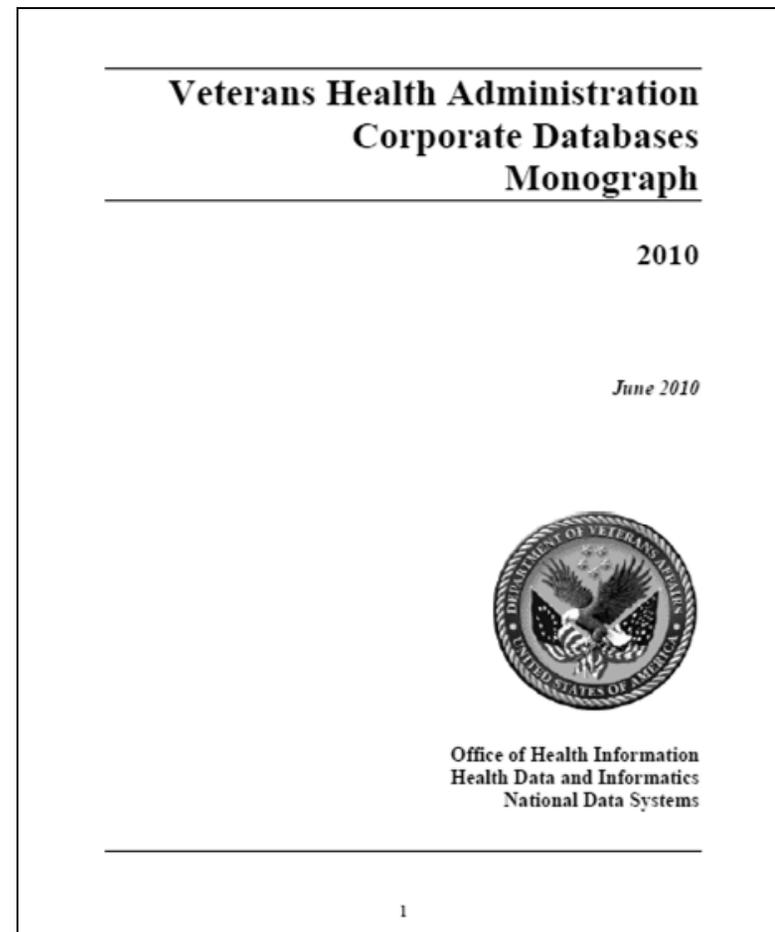
- Specific to VISN; scope varies

- **Corporate (National) Level**

- Mandate for some local data may include uploading a standardized component to a central location

VHA Corporate Databases Monograph

- **Produced by OI National Data Systems**
 - http://vaww4.va.gov/NDS/CorporateDatabasesMonograph/Monograph_2010.pdf
 - Includes 130 databases and information systems



Introduction to VA Data

- VIReC website:
 - <http://www.virec.research.va.gov/Support/Training-NewUsersToolkit/IntroToVAData.htm>

VA INFORMATION RESOURCE CENTER
"The Researcher's Guide to VA Data"

Toolkit for New Users of VA Data - Introduction to VA Data

Overview | Intro to VA Data | Requesting Access to Data | Using Data | Help

This is a general introduction to the many sources of data in the Veterans Health Administration (VHA). The VHA is the country's largest integrated health care system in the U.S., comprising 162 VA hospitals, 137 nursing homes, 43 domiciliaries, and more than 850 community and facility-based clinics (Department of Veterans Affairs *Strategic Plan 2003-2008*, pg. 5). Reporting this extensive health care system, the VHA has a long and successful history of using computerized data. (See S.H. Brown, et al., "VISTA-U.S. Department of Veterans Affairs National Scale HIS," *PubMed Abstract 12810119*.)

The VA Information Resource Center (VIReC) provides researchers with detailed and summary information about the data sources most often utilized by VA researchers. The *VIReC Toolkit for New Users of VA Data* emphasizes orientation to the *Medical SAS Datasets*, VHA's administrative data on inpatient and outpatient care. This introduction to VA data is intended to suggest the wider world of VHA data and to provide some guidance on searching for data in the VHA.

VHA Information Systems

VHA information systems exist at several levels:

- Local:** Local data reside in the *Vista* system. This system houses the electronic medical record at VHA health care facilities.
- VISN:** VHA organizes its local facilities into networks called VISNS (VA Integrated Service Networks). At the VISN level, *Vista* data from multiple local facilities may be combined into a data warehouse. For example, VISN 20 has created a VISN data warehouse (see the article "*Data Cubes*" in *Government Computer News*, June 17, 2002). Information about VISN data warehouses may be found via the Intranet Web sites of the VISNs (e.g., VISNs 2, 20, 22) or by contacting the *VIReC Help Desk*.
- National:** National level data generally refers to databases constructed from rolled-up local facility data and housed in a central location. The National Data Systems (NDS) division of Information Assurance, VHA Office of Information, maintains an inventory of corporate databases and produces the *Corporate Databases Monograph*, which is available on the VIReC Web site.

Searching for VA Data

Monographs & Listings

- Austin Information Technology Center (AITC) *Customer Information Guide*, Chapter 3, "Applications, Tools, and Utilities".



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VA Databases

■ **Databases addressed by series:**

- VA Inpatient Data
- VA Outpatient Data
- VA Pharmacy Data
- VA DSS National Laboratory Data
- VA/Centers for Medicare and Medicaid Services (CMS) Data
- VA Corporate Data Warehouse (CDW)
- VA Vital Status Dataset

■ **Additional Databases**

- VA Rehabilitation Data
- VistaWeb and CAPRI
- Public Domain Data



VA Inpatient Data

■ General Description:

- Inpatient services are recorded in the MedSAS Inpatient datasets
- Common dataset structure, generally stable over time
- Maintained at the Austin Information Technology Center (AITC)
- The Medical SAS Inpatient Datasets cover four main categories of care:
 - Acute, Extended, Observation, and Non-VA.
 - Four datasets within each: Main, Bed Section, Procedure, and Surgery



VA Inpatient Data

- **Data element examples**

- Patient demographics
- Primary/Secondary Diagnosis
- Length of Stay
- ICD-9 Procedure and Surgery Codes

- **Data Steward:**

- National Data Systems (NDS)

- **Website/Where to go to find more:**

- <http://www.virec.research.va.gov/DataSourcesName/Medical-SAS-Datasets/MedSAS-Inpt-RUG/MedSAS-RUG-Inpt09er.pdf>
- <http://vaww.va.gov/nds/>



VA Outpatient Data

■ **General Description:**

- Outpatient services recorded in the MedSAS Outpatient datasets:
 - Visit datasets (SF) files
 - Event (SE) datasets

■ **Data element examples:**

- Patient identifier (SCRSSN)
- Patient demographics (Age, date of birth, race, marital status)
- Date of encounter
- Means Test Indicator
- Patient eligibility code
- Procedure (CPT4) codes & Diagnoses (ICD9) codes
- Type of provider



VA Outpatient Data

- **Data Steward:**
 - National Data Systems (NDS)
- **Website/Where to go to find more information**
 - <http://vaww.va.gov/nds/>
 - <http://www.virec.research.va.gov/DataSourcesName/Medical-SAS-Datasets/MedSAS-Outpt-RUG/MedSAS-RUG-Outpt09er.pdf>



VA Pharmacy Data

- **General Description:**
 - Data on medications dispensed from VA pharmacies
- **Data element examples:**
 - Drug name, VA class, quantity, days supply, dispensing date, costs
- **Data Steward**
 - PBM: Fran Cunningham
 - DSS: VHA Decision Support Office
- **Website/Where to go to find more information**
 - PBM: www.pbm.va.gov
 - DSS: <http://vaww.dss.med.va.gov/>



VA DSS National Laboratory Data

■ General Description:

- The VHA Decision Support System (DSS) is the designated Managerial Cost Accounting (MCA) System of the Department of Veterans Affairs
- Includes Four DSS Clinical National Data Extracts (NDE)
 - Lab (Fact of)
 - Lab Results
 - Pharmacy—Prescription Data
 - Radiology



VA DSS National Laboratory Data

■ Data Element Examples:

- Actual Total Cost
- Laboratory fixed direct, variable direct, and indirect costs
- Dates
- Ordering provider
- Laboratory test results (71)

■ Data Steward:

- VHA Decision Support Office

■ Website/Where to go to find more information

- <http://vaww.dss.med.va.gov/>



VA DSS National Laboratory Data

■ Lab test examples:

- HDLC
- LDLC
- Total Cholesterol
- Serum Creatinine
- Hemoglobin
- Hemoglobin A 1C
- HIV Antibody
- HIV Viral Load
- Arterial blood gases
- Post dialysis levels
- Some drug levels (Lithium, Digoxin, Theophylline)



VA/Center for Medicare and Medicaid Services (CMS) Data

- **General Description:**

- CMS data are available about veterans who are enrolled in, eligible for, or have used VHA care. Select non-veteran data are also available.

- **Data Available Include:**

- Medicare Enrollment and Claims Data
- Medicaid
- Medicare Current Beneficiary Survey (MCBS)
- Long Term Care Minimum Data Set (MDS)
- Home Health Outcome & Assessment Information Set (OASIS)



VA/CMS Data

- **Data Element Examples:**

- Demographics
- Admission and discharge dates
- Diagnosis and procedure codes
- Billing data

- **Data Steward:**

- VIREC's VA/CMS Data for Research Project

- **Website/Where to go to find more information**

- <http://www.virec.research.va.gov/DataSourcesName/VA-CMS/VACMSoverview.htm>



VA Corporate Data Warehouse (CDW)

- Relational database
- Draws from several VHA clinical & administrative systems
- Created to support administrative & research objectives
- Historical data from FY 1999 and current data
- Updated nightly from 4 regional data warehouses
- Some VistA data now available from all VHA facilities
 - Data for some VistA domains newly available
 - More VistA data domains in development



CDW

- **General Description:**
 - Data from VA clinical and administrative systems.
- **Data Element Examples (Sources):**
 - Patient and Staff demographics (VistA; All time)
 - Prosthetics (VistA; All time)
 - Outpatient encounters (NPCD; 10/1/1999 and forward)
 - All ICD9 and CPT Codes
 - Vital Signs (HDR; 10/1/1999 and forward)
- **Data Steward:** National Data Systems (NDS)
- **Website/Where to go to find more information:**
 - <http://vhacdwa09.vha.med.va.gov:8080/>.



VA Vital Status

■ **General Description:**

- Provides multiple sources of mortality information.
- Contains one record for every SCRSSN-DOB-gender combination found in the VA utilization, enrollment and compensation and pension files.
- Two file: Master and Mini
- Sources include BIRLS death file, the SSA death master file, the PTF file, and race data from the Medicare Vital Status file,

■ **Data element examples:**

- date of death, date of birth, gender, veteran status, last utilization date



VA Vital Status

- **Data Steward:**
 - National Data Systems
- **Website/Where to go to find more information**
 - Access information:
<http://vaww.va.gov/NDS/DataAccess/VitalStatus.asp>
 - Documentation:
<http://www.virec.research.va.gov/DataSourcesName/VitalStatus/VitalStatus.htm>



VA Rehabilitation Data: FSOD

■ General Description:

- Functional Status Outcomes Database (FSOD) includes inpatient rehab events
- Housed at the AITC in Austin TX

■ Data Element Examples:

- Demographic information and evaluations using the Functional Independence Measure (FIM)
- Rehabilitative services
 - Treatment location
 - Bed section variable
 - ICD-9 procedure codes
 - Diagnostic fields



VA Rehabilitation Data

- **Data Steward:**

- VA Physical Medicine and Rehabilitation Service
(Doug Bidelspach)

- **Website/Where to go to find more information:**

- <http://vaww1.va.gov/rehab4veterans/page.cfm?pg=12>



VHA Electronic Health Records - VistA

■ Local VistA Records

- Computerized Patient Records System (CPRS)
- Single facility access
- Contact local ADPAC (Automatic Data Processing Application Coordinator) for access



VHA Electronic Health Records - VistA

■ National VistA Access

– VistA access for multiple VHA sites

– VistAWeb

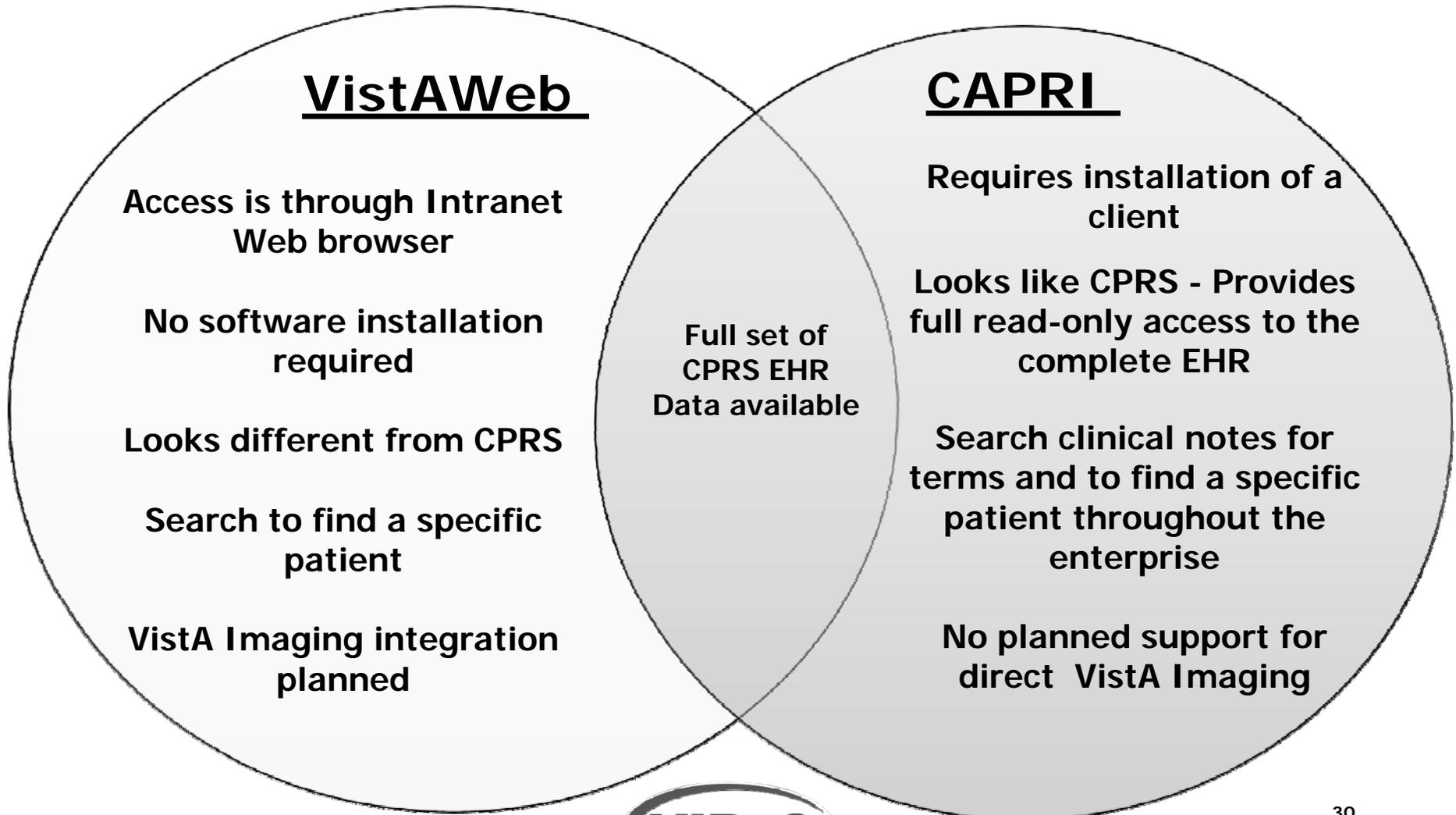
- via web browser

– CAPRI

- Client application installed on your desktop
- Looks like CPRS
- Each user's account can be linked for national access or to a restricted patient or site list
- Complete access to current and past Automated Medical Information Exchange (AMIE) claims activity for determining eligibility for benefits,
- Full read-only access to EHR data & lab graphs
- CAPRI offers access to VistAWeb



VHA Access to EHR Comparison



Public Domain Data

- **VA Sites**

- VA Survey Data
- General Veteran Population Data

- **Data.gov**

- Facility Report cards
- Census and other survey data about veterans



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Who Can Use VA Data For Research?

- **Employment status**
- **Purpose**
- **Ownership/Management/
Authorizations**
- **Physical Location/Format**
- **Sensitivity of the information**



Access to VA Data by Non-VA Researchers

- **The VA restricts release of data containing Protected Health Information (PHI) for research use to VA employees with approved VA research protocols**
- **Exceptions:**
 - Obtain written permission of the VA Under Secretary for Health
 - Obtain a signed HIPAA-compliant authorization from the patient or his/her personal representative for access to the individual's health records
 - Request data in the form of a de-identified dataset under the Freedom of Information Act (FOIA)
 - Collaboration with a VA researcher/clinician



Requirements for Research Data Access are Multi-Departmental

- **VHA Office of Research and Development**
 - Brenda Cuccherini, Ph.D., reviews all requests for national real SSN data.
- **VHA Privacy Office**
 - Reviews request packet re: HIPAA and Privacy Act requirements
- **VHA Security Liaison Office**
 - Reviews Data Use Agreements for technical details
- **VA OI&T, Information Security Officer**
 - Reviews for technical data transfer/storage
- **VHA Local Management**
 - Director, VISN Director, etc
- **Data Custodian**
 - Examples: NDS, VIREC, Local



Data Access Requirements are Determined by the Information Custodian

- **National Data Systems (NDS)**

- Corporate Data Warehouse (CDW)
- Vital Status Data
- MedSAS (real SSN)
- DSS (real SSN)

- **VA Information Resource Center (VIReC)**

- VA/CMS Data



National Data Systems (NDS) Data Required Documents

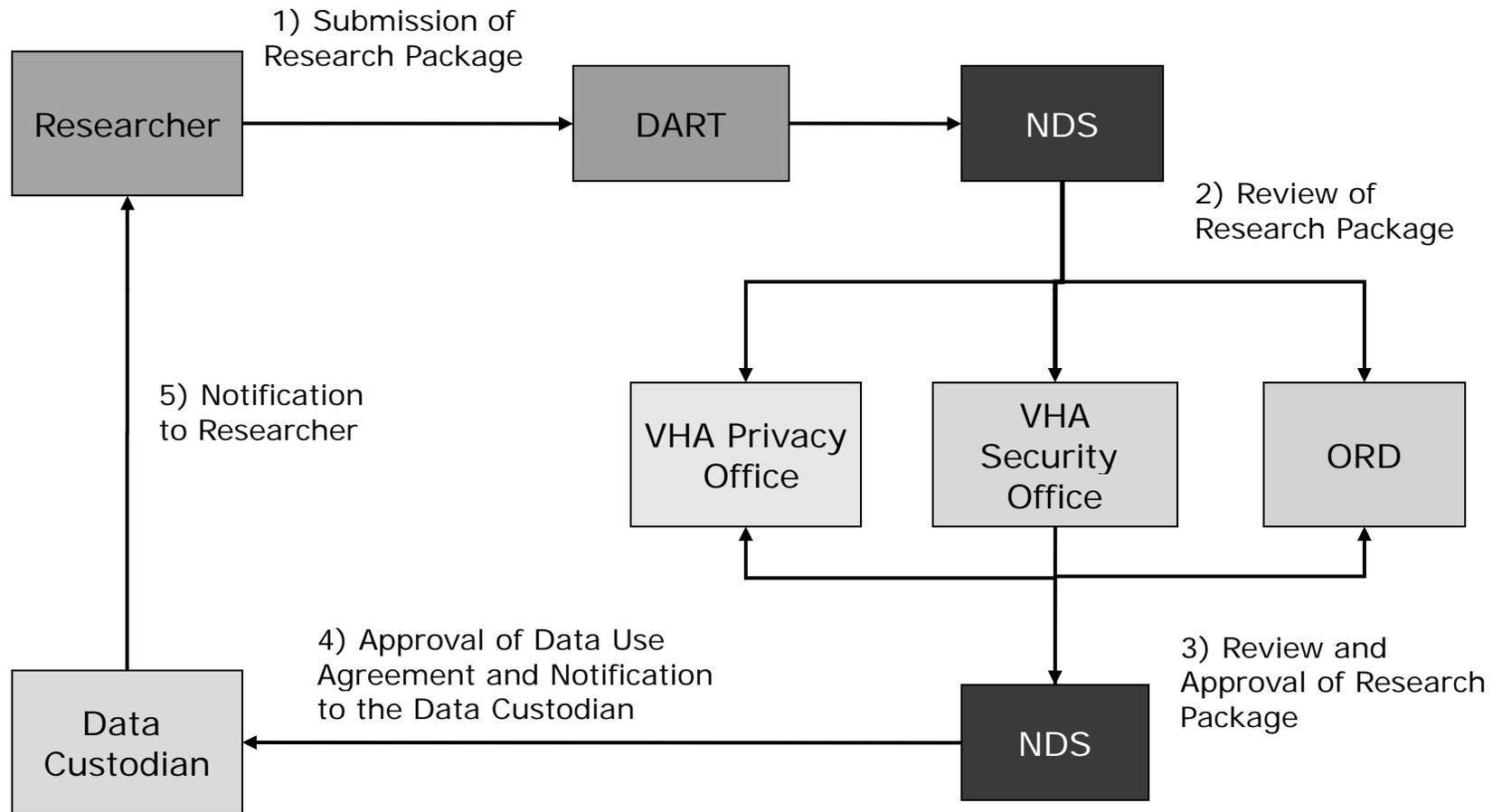
1. Research Study Protocol
2. Research and Development (R&D) Committee Approval Letter(s) Original one and Current one
3. Research Study Institutional Review Board (IRB) Approval Letter(s) Original one and Current one
4. Sample Informed Consent and HIPAA Authorization, if applicable to the Research Study
5. Waiver of HIPAA Authorization
6. Waiver of Informed Consent
7. Approved 9957 forms for each individual accessing/using the data

Where applicable:

1. Signed Privacy Statements
2. Non-Disclosure Agreement
3. Rules of Behavior Agreement
4. Data Use Agreement



Approval Process for Researcher Access to NDS Data



What is DART?

- NDS Data Access Page: <http://vaww4.va.gov/nds/>
- An online SharePoint workflow application that guides research data requestors through the process of requesting access to data.
- Developed and hosted by VINCI in coordination with VIREC, HIA, NDS and other VHA offices.
- Oversight provided by the VHA Data Access Board.
- National Data Systems (NDS) is using DART to manage research requests for the data access they coordinate



DART Functions

- Captures and stores data request details
- Generates a list of required documents for the data requested
- Captures and stores required documents
- Allows reviewers to approve the data request or ask for more information
- Generates email notices to requestors, data stewards and reviewers
- Allows requestors to view the status of their request
- The DART User Guide contains step-by-step instructions for submitting an NDS data request – link on NDS Web site
- VINCI/DART has a help desk at the Austin Corporate Data Center Operations (CDCO)



ORD Review

- What data access requests require ORD review/approval?
 - ***Real SSN data***
 - For specific dataset requests indicated by specific functional task codes
- What is reviewed?
 - ***Research protocol*** to ensure that access is really needed.
 - ***IRB and R&D approvals*** -- ensuring they are valid and current.
 - ***HIPAA authorization (or waiver)*** to ensure that, if granted, the waiver is documented in accordance with HIPAA requirements.



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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 550+ VA only researchers, data stewards, managers and other users
- Searchable archive of past discussions



Obtaining Help



Obtaining Help

■ VIREC Website

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

■ Help Desk

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



Questions?



Next session:

Assessing VA Health Care Use: Inpatient

Denise M Hynes, PhD, RN

Monday August 1, 2011

12:00pm CST

