Insights

VIReC

VA INFORMATION RESOURCE CENTER

YOUR GUIDE TO VA DATA

The VA Decision Support System (dSs): A Tool for Health Services Research

This VIReC *Insight* is intended to give an overview of the VA's Decision Support System (dSs) and to encourage readers to explore further the possible use of dSs in answering a given research question, obtaining background information, or identifying areas for improving clinical care. Specific sources of further information about dSs are provided at the end of this document.

What is dSs?

The dSs is a longitudinal, secondary database that combines selected elements of VA clinical and cost data. The relative comprehensiveness of the data elements in the databases, in combination with the capabilities of the dSs software to perform numerous types of analyses, make the dSs a potentially useful tool for health services research.

Data in dSs are extracted from patient level local Veterans Health Information Systems Technology and Architecture (VistA) and selected Austin Automation Center (AAC) databases/files. The data extract programs are run by facility or Veterans Integrated Service Network (VISN) dSs teams monthly. In FY2000, dSs will include some non-VA/contract workload, with additional contract data expected to be added in the future. The dSs is reviewed, modified, and expanded annually by the Bedford Technical Support Office (BTSO) and the dSs Steering Committee, which reports to the Chief Network Officer. The results of systematic efforts to standardize nomenclature and processes within dSs across VA facilities are expected to make the comparing and combining of data for multiple facilities easier and more meaningful in FY2000.

How Can dSs Data Be Used in Research?

The uniqueness of the dSs database is that it includes both utilization and cost information in the same database. However, there is great flexibility in the selection of variables for reports, so that users are not required to utilize both cost and clinical data in a given data run. Further, some reports can be output as fixed format or comma-delimited files that can then be downloaded into Excel, SAS, or other statistical programs.

Financial Information

dSs gives financial data for departments or groups of departments. A department is defined as a production unit, which can be a nursing ward, an MRI unit, a clinic, or any entity (often a subset of a VHA service) that has: a supervisor, an identifiable workforce and other costs, and a set of products or outputs (e.g., patients receiving care). Costs also are given for individual products (a bed-day, a procedure, a laboratory analysis, etc.). Financial data are given as fixed and variable costs, direct and indirect costs, and total costs. dSs financial data also can be used to determine costs of care for a given patient or group of patients, whether these are selected by diagnosis, clinic, Social Security Number (SSN), procedure, etc.

Clinical Information

It is possible to determine care patterns for a specific patient or patient population. This might be done in "process analysis by day," looking at, for example, treatment on the day of discharge using standardized dSs reports for all patients admitted for a specific type of surgery. "Process analysis by phase of care" might be done to examine the recovery period care for a group of patients with a particular diagnosis. "Large case" and "Episode of Care" in dSs can be used to follow a patient or group of patients over time, including both outpatient and inpatient care. Models of care can be defined, and then data on actual care measured against the models. "Clinical Indicators" analysis allows one to set a rule for treatment (e.g., prescribing of a specific medication within a given period of time following a particular diagnosis), and then to determine the extent to which patterns of care occur consistent with the rule.

Technical Issues

dSs data sources includes the following categories of information:

- VA Personnel and Accounting Integrated Data System (PAID)

- Centralized Accounting for Local Management (CALM)/Financial Management System (FMS)

- Consolidated Memorandum of Receipt (CMR) costs

- Building depreciation

- VACO, VISN and national program costs

- Patient Treatment File (PTF) admissions, discharges, transfers, treating specialty changes, inpatient attending MD (FY1998)

- Clinical coded radiology procedures

- Clinical lab procedures (VistA)

- Clinical stops/no-shows (VistA)

- Surgery/anesthesia (VistA)

- Dental (VistA)

- Nursing ward days by acuity (VistA)

- Outpatient prescriptions, unit dose, IVs (VistA)

- Products entered through Event Capture software (VistA)

- Speech and audiology procedures (VistA)

- Resource Utilization Group (RUG) values

[Reference: dSs Clinical Training, Phase 2 (Indicators) and Phase 3 (Indicator Homework), March-June 1999; p. 6. VHA Office of Information, National Training and Education Office.]

dSs also includes 40 Laboratory results, and others may be added in the future.

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Where Are The dSs Data Located?

dSs data are stored in facility-specific databases on dedicated computers at the AAC. Each VA facility or VISN has a dSs Site Team and Manager. (A listing of Managers is on the VA Intranet dSs home page, address given below.) The Site Teams run the VistA dSs Extract programs to update clinical data. They also define how their facility's data will be "mapped" or assigned to the dSs fields/structures required by the software. In addition, Site Teams use their respective dSs databases to run reports requested by facility administrators, clinical managers, and others—including researchers.

In addition to the facility-level databases, dSs data are available on the VA Intranet in the dSs National Roll-up (1997, 1998). The National Roll-up for 1998 included 118 VA facilities and showed DRG and stop code costs and volumes for all facilities combined, the VISNs, and medical centers. Major Diagnostic Codes were shown at the corporate and VISN level. It should be noted that the 1997 and 1998 Corporate Roll-ups over-report length of stay for long term care patients who have hospital inpatient stays.

The VISN Support Service Center (VSSC) Information Management staff, working with the dSs Bedford Technical Support Office and the dSs vendor, are developing and testing three patient-level (scrambled SSN) extracts of dSs data. The VSSC will produce SAS data sets to reside at the Austin Automation Center, and a series of reports will be produced via the KLFMenu. The extract files will become available to approved users during FY2000.

How Can Researchers Get Access?

An investigator can contact the local dSs Site Team for explanations and demonstrations of dSs and to explore how specific research questions might be addressed. For studies that include one or a few VA facilities, an investigator might work with the relevant dSs teams and ask them to access the data and produce reports. The National Roll-up is available on the VA Intranet (address below).

The dSs Steering Committee is implementing a policy on access to and disclosure of dSs data. Procedures to implement it should be final in FY2000. In the meantime, direct access to a dSs database (e.g., a given facility) can be requested by completing VA Form 9957, the ACRS (Automated Customer Registration System) request.

dSs Site Teams utilize local servers with the communications software Dynacomm and a GUI (graphical user interface) by Transitions Systems, Inc. (TSI). VA users not part of the Site Team, once authorized to access dSs, can utilize the AAC's Host On Demand to connect to the dSs databases.

dSs Documentation and Validation

Existing information about dSs, in the form of on-line training courses, printed manuals, policy memoranda, etc., generally is directed to dSs Site Team members or facility managers utilizing dSs as a management tool.
Both VIReC and the VA Health Economics Resource Center (HERC) are committed to assisting health services researchers to understand and to use the dSs as a research tool. With respect to documentation and validation of the dSs production databases, HERC will focus on the economic or cost estimating capabilities of the dSs, and VIReC will concentrate on the clinical components of dSs.

Information on these documentation and validation efforts will be distributed to health services researchers through the VIReC and HERC Web sites, the HSRData mail group, and Research & Development publications.

Sources of Information About dSs Useful to Health Services Researchers

dSs Site Teams

Site Team members are informed users of dSs and willing to show you what the system can do. To locate the dSs Site Team for your facility or VISN, consult the dSs Information Page on the Intranet (address below).

VA Intranet Web Sites

The dSs Information Page has the dSs Business Plan, an excellent source of general information about dSs; the Site Managers list; and the latest Corporate Roll-up data. It also has links to other useful dSs information.

The CIO National Training & Education Office offers on-line training programs on many aspects of dSs.

The Austin Automation Center (AAC) Intranet site offers a search function, and entering "DSS" (without the quotes) will retrieve a listing of all dSs-related presentations at the Annual Information Technology Conference (ITC).

The CIO Newsletter periodically has articles about dSs, including some research reports.

VA Internet Web Sites:

The VIReC Web site includes information about dSs, and it provides instructions for joining HSRData, an unmoderated e-mail group where researchers using dSs can exchange questions, advice, etc.

http://www.virec.research.va.gov

The Health Economics Resource Center (HERC) Web site is being developed to assist VA researchers in assessing the cost effectiveness of medical technologies and evaluating the efficiency of VA programs and providers. HERC will post more information on using dSs for research in the future.

http://www.herc.research.va.gov

Literature

Barnett PG, Rodgers JH. Use of DSS for VA cost-effectiveness research. *Medical Care* 1999;37(4):AS63-AS70, VA Supplement.

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