

Data Investigation

Lab Specimen Source in DSS Laboratory Data

Variables

Variables discussed in this data quality brief:

Variable Name*	DSS National Data Extract	Years Available
DSSLARNO	Lab Results (LAR)	FY2000 – present
RESULTS	Lab Results (LAR)	FY2000 – present
TESTUNIT	Lab Results (LAR)	FY2000 – present

*See the *VIReC Research User Guide: VHA Decision Support System Clinical National Data Extracts* [1] for descriptions of these variables.

Background

The Decision Support System (DSS) Laboratory (LAB) and Laboratory Results (LAR) National Data Extracts (NDE) contain information on lab tests performed in the VA and by outside vendors. There is no variable indicating specimen type in either of these datasets. This is a problem when the analyte being tested can be obtained and tested from more than one anatomic source.

Findings

Although DSS assigns different intermediate product numbers to tests of the same analyte from different sources, we have found at least one case where the NDE contains tests from different specimen sources under one identifier. This is the creatinine test, whose identification number (the DSSLARNO variable) in the LAR extract is 0031. While this test is called “Serum Creatinine” in the DSS Technical Guide [2] (and reproduced in the *VIReC Research User Guide: VHA Decision Support System Clinical National Data Extracts* [1]), values of the RESULT variable in some records suggest that some of these tests are urine, rather than serum creatinines.

Solution

DSS central office personnel are aware of these problems and are working to find a solution. Regardless of potential corrections that may affect future DSS NDEs, the accurate identification of lab test results will continue to be a challenge for researchers working with DSS LAR data from past fiscal years.

Recommendation

A list of lab tests currently available in the DSS LAB and LAR NDEs for which more than one specimen source exists is provided below. We recommend that researchers carefully review the distribution of the values in the RESULT variable to assess their validity. For tests where valid values for different specimen sources do not overlap, it may be possible to deduce the source of the specimen from the test result. Procedures for handling ambiguous cases would need to be developed and employed. In some cases, additional clues regarding specimen source may also be found in the TESTUNIT variable, which contains the unit in which a test result is reported. Additional resources on DSS NDE's are available on VIREC's website.

The following lab tests, included in the DSS LAB/LAR NDEs, may have more than one specimen source.

Lab tests with more than one specimen source	
Analyte	Potential Specimen Sources
Albumin	serum, urine, cerebral spinal fluid (CSF)
Bilirubin	blood, feces
BUN	blood, urine
Calcium	blood, urine
Creatinine	blood, urine
Glucose	blood, urine, other fluids*
Hemoglobin	blood, plasma, urine
Homocysteine	blood, urine
Occult blood	stool, gastric fluid
Potassium	blood, urine
Protein	blood, urine, CSF
WBC	whole blood, stool, urine, CSF, other fluids*

* peritoneal, synovial, pleural

References

- (1) VA Information Resource Center. *VIREC Research User Guide: VHA Decision Support System Clinical National Data Extracts*. 2nd ed. Hines, IL: U.S. Dept. of Veterans Affairs, Health Services Research and Development Service, VA Information Resource Center, Sept. 1, 2009.
- (2) VHA Decision Support Office. *Fiscal Year 2008 DSS National Data Extract (NDE) Technical Guide*. U.S. Dept. of Veterans Affairs, Decision Support Office, Database Development, Mar, 2008.



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