

The NLM Value Set Authority Center at 1 year

Steve Emrick, Duc Nguyen, Pishing Chiang, Philip Chuang, Maureen Madden,
Rainer Winnenburger, Rob McClure, Ivor D'Souza, Olivier Bodenreider
National Library of Medicine, National Institutes of Health, Bethesda, MD, USA

The NLM Value Set Authority Center (VSAC) is designed to be the 'source of truth' for value sets in the domain of biomedicine. It was built in collaboration with the Office of the National Coordinator for Health IT (ONC) and Centers for Medicare & Medicaid Services (CMS). Launched in October 2012, VSAC was born out of the immediate need to have a one-stop-shopping point to capture data elements required by 2014 EHR Clinical Quality Measures. In its short lifetime, VSAC has already achieved some major milestones:

- Implemented a REST Application Programming Interface (API) in accordance with the *Integrating the Healthcare Enterprise (IHE) Sharing Value Sets (SVS)* specification to provide value sets in XML form;
- Provided a Graphical User Interface (GUI) with several ways to search for value sets;
- Provided pre-packaged spreadsheets of value sets and measure data for implementers;
- Gone through two updates for CMS Eligible Hospital (EH) and Eligible Provider (EP) measures;
- Launched a beta version of the VSAC Authoring Environment, a standalone authoring system for value sets.

In the meantime, VSAC has continued to grow and expand its repository beyond the domain of Meaningful Use into other areas such as Patient Assessment instruments, Common Data Elements for research, public health, the ONC S&I Framework, FHIMS, and other clinical modeling efforts.

The VSAC is available at <https://vsac.nlm.nih.gov/>. Viewing and/or downloading value sets requires a free Unified Medical Language System[®] Metathesaurus License, due to usage restrictions on some of the codes included in the value sets.

The screenshot displays the VSAC web application interface. At the top, there is a navigation bar with tabs for 'Welcome', 'Search Value Sets', 'Download', and 'Help'. Below this is a search bar with the query 'hba1c' and a 'Search' button. The main content area is divided into several sections:

- Search Results:** Includes a 'Value Set Details' tab and a 'Value Set Information' section showing 'Definition: 20121025' and an 'Export Value Set Results (Excel)' link.
- Metadata:** A sidebar with tabs for 'Metadata', 'Measure', and 'Grouping'.
- CQMs Supported by this Value Set:** A table with columns for CMS eMeasure ID, NQF Number, Category, and MU.

CMS eMeasure ID	NQF Number	Category	MU
CMS148v1	0060	Laboratory Test	CY 2014 EP
CMS122v1	0059	Laboratory Test	CY 2014 EP
- Value Set Members:** An 'Expanded Code List' section with a table showing code systems and their descriptors.

Code	Descriptor	Code System	Version	Code System OID
17855-8	Hemoglobin A1c/Hemoglobin.total in Blood by calculation	LOINC	2.40	2.16.840.1.11388
17856-6	Hemoglobin A1c/Hemoglobin.total in Blood by HPLC	LOINC	2.40	2.16.840.1.11388
4548-4	Hemoglobin A1c/Hemoglobin.total in Blood	LOINC	2.40	2.16.840.1.11388

At the bottom of the page, there is a footer with copyright information, contact details, and a 'USA.gov' logo. The footer also includes the text: 'Last updated: 1 March 2013' and 'First published: 25 October 2012'.

Figure 1. Screenshot of the NLM Value Set Authority Center (VSAC) web application

Acknowledgments: This work was supported in part by the Intramural Research Program of the NIH, National Library of Medicine.