RESOURCE AND PATIENT MANAGEMENT SYSTEM

IHS Standard Terminology Application Programming Interface

(BSTS)

Technical Manual

Version 1.0
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Table of Contents

Preface

The purpose of this manual is to provide technical information about the Indian Health Service (IHS) Standard Terminology (BSTS) package. The BSTS package contains a number of Application Programming Interface (API) calls developed to interface with Apelon's Distributed Terminology System (DTS). These APIs provide a general interface and caching mechanism for MUMPS-based/FileMan-based systems to interact with an external terminology server, specifically DTS.

DTS 4.0, provided by Apelon is a comprehensive open source solution for the acquisition, management and practical deployment of standardized terminologies, with local enhancements, into distributed application environments. DTS establishes a single common resource for an organization's terminology assets that can be deployed across the spectrum of health information delivery systems.

1.0 Introduction

The BSTS package is a component of the IHS Resource and Patient Management System (RPMS) that provides a general interface and caching mechanism for MUMPS-based/FileMan-based systems to interact with an external terminology server, specifically DTS. The APIs are designed to be application independent, and stand-alone interfaces.

This manual provides IHS site managers with a technical description of the BSTS APIs, routines, files, menus, cross references, globals, and other necessary information required to effectively utilize the APIs from an external application to access Systematized Nomenclature of Medicine-Clinical Terms (SNOMED CT®), RxNorm, Unique Ingredient Identifier (UNII) codesets as well as IHS defined custom mapping codesets located in an external terminology service. The APIs also have the flexibility to retrieve other terminologies from DTS in the future, such as, International Classification of Diseases (ICD) Codes.

All APIs, routines, files, options, and keys are namespaced starting with the letters BSTS. The file number range for this package is 9002318–9002318.99.

2.0 Orientation

The BSTS package consists of a set of APIs to be called from an external application to search and return valid terminology concepts and associated information. The API package is distributed as a Kernel Installation and Distribution System (KIDS) package which contains the appropriate files and routines to enable data storage, auditing/logging, performance metrics and tools for monitoring and analysis, and a formal error handling and reporting mechanism.

Interaction between the external application (e.g., IHS Electronic Health Record (EHR), iCare) and the DTS is accomplished through the BSTSs via web service calls or requests. All APIs in this package begin with the namespace letters BSTS.

A high-level diagram of the terminology services architecture is shown in Figure 2-1. Each of the main components identified is detailed in the sections that follow.

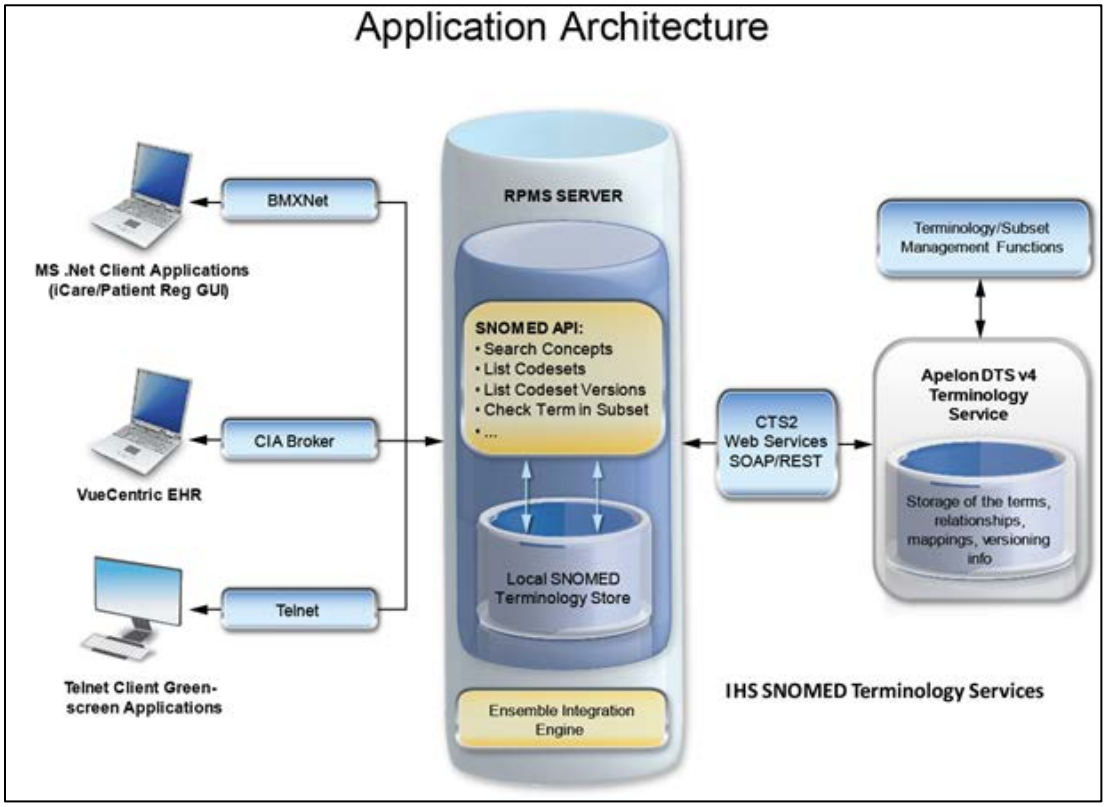

Figure 2-1: High-level Application Architecture Diagram for the IHS Terminology Services Solution

2.1 RPMS Applications

Pictured on the left-hand portion of Figure 2-1 are the various RPMS applications that interact with the terminology systems. Several development modalities exist for these RPMS applications, including those created using Microsoft® .NET Framework, components with the IHS EHR, as well as the traditional character based *green screen* applications.

Each of these types of applications connects to RPMS in different ways.

- The Microsoft .NET applications utilize an ADO.NET adapter for RPMS that is called BMXNet.
- The EHR components utilize a Remote Procedure Call (RPC) broker mechanism referred to as the "CIA Broker".
- The character-based applications are executed directly within the RPMS InterSystems Caché® database and therefore have direct access to the RPMS database.

In the proposed solution, each of these types of applications would continue to interact with RPMS using the same mechanisms they currently utilize and would interact with the terminology services via the new RPMS Terminology Services API that is described within this document.

2.2 Terminology Service RPMS API

For the initial set of SNOMED CT related use cases, applications will interact with a new MUMPS-based API that exposes functions and classes that encapsulate the interface with the DTS terminology server. This API will return information in familiar data array format and will eliminate the need for the applications to directly interface with the web service interface and related XML messaging.

While this RPMS API is expected to be the primary means through which RPMS-based applications will interact with the terminology server functions, there may be valid use-cases that arise in the future that would be best accommodated through direct web-service interaction with the terminology service. There is nothing that would preclude this direct access by applications in the future.

The majority of this technical manual is focused on describing the current implementation of this terminology API.

2.3 Stand-alone Terminology Service Instance

The terminology service solution component selected for this proposed design is the DTS Version 4 created by Apelon. Specific information about the DTS 4 application follows:

- Solution/Product Name: Apelon DTS Version 4
- Company Website: http://www.apelon.com
- DTS Product Page: http://apelondts.org/
- Open Source Development Community: http://apelon-dts.sourceforge.net/
- Description: Apelon DTS is developed and supported by Apelon Inc. and consists of the following components:
  - A core terminology server
  - DTS Editor, a standalone application for managing the terminologies on the server
  - DTS Browser, a web-based front-end for viewing terminology trees
  - Import and Migration utilities
  - API and Web Services to support application development
- Licensing: Open Source (Apache License Version 2)
- Cost: The DTS 4 software is currently available at no cost. Apelon offers other paid services for standard code-set updates and mapping information from published sources. Annual fee is $20K for content subscription for all of IHS organization.
- Support: Available as a paid service from Apelon. Annual fee of $15K per year for full support services. Ad hoc support and training also available.
- Developer Communities: (Open source, etc.) Yes, but not a large participation at this point.
- Active Development: Current version in use is DTS Version 4.0 alpha 3. The 4.0 production version was released on December 26th, 2013. Future plans are to update the in-use version to the production version.
- Language Support: English

• Server-side Operating System (OS)/Platform:	Java™, JBoss® AS 7
• Client-side OS/Platform:	Client applications are written in Java™, and as such have wide platform support. Also browser access for browsing and searching terminology included.
• Terminology Database Storage Options:	Windows®: • Oracle® Database 10g or 11g Standard or Enterprise Edition • Microsoft SQL Server® 2005,2008 • InterSystems Caché 2010.2 or later • IBM DB2® 9.7 Workgroup or Enterprise Edition • MySQL 5.5 Linux: • Oracle Database 10g or 11g Standard or Enterprise Edition • InterSystems Caché 2010.2 or later • IBM DB2 9.7 Workgroup or Enterprise Edition • MySQL 5.5
• API/Interoperability Capabilities:	Java™ and .NET Application APIs, Web services (Version 4). CTS2 compliant web interface on development roadmap for 2013, but not included in the initial version 4 release. Option exists to develop a subset of CTS2 interface implementation.

- Adopters:
  - Amgen
  - Axolotl
  - Canada Health Infoway
  - CHCA
  - Elsevier
  - Epocrates
  - Harris
  - Hong Kong Hospital Authority and Hong Kong MoH
  - HP (Federal and S&L)
  - Humedica
  - IBM
  - JEMBI (South Africa)
  - Kaiser
  - MModal/MedQuist
  - Next Gen
  - Premier
  - NASA
  - New York State Office of Mental Health
  - SSA
  - RIQI
  - Telus (Canada)
  - University of Utah
  - VA
  - WoltersKluwer-Medispan

Additional design information for the terminology service architecture to support utilization of terminologies such as SNOMED CT is documented in the document titled "*IHS Terminology Services – High-level Technical Design Version 1.5*".

3.0 Implementation and Maintenance

The BSTS APIs are designed to provide a MUMPS-based programming interface for RPMS development teams to work with terminology data. The API in turn utilizes a web service interface to interact with with the terminology servers, with the initial implementation being an interface with the Apelon DTS 4.0 terminology service.

3.1 General Information

The following table shows the prerequisite patch requirements.

Package and Version	Associated Patch Designations	Brief Patch Description
None	None	None

3.2 System Requirements

The following table shows the versions of other packages that should be installed for BSTS to work properly.

Module	Minimum Version	Recommended Version
Ensemble 2012	v2012.2	
VA FileMan (DI)	v22.0 Patch 1017	
IHS/VA Utilities (XB)	v3.0 through Patch 11	
IHS Kernel Toolkit (XT)	V7.3 through Patch 1017	
VA Kernel (XU)	v8.0 Patch 1017	

3.3 Package-wide Variables

There are no package-wide BSTS variables in RPMS.

3.4 Security Keys

The security keys that govern BSTS, which can be assigned to users, are:

Key Name	Description
BSTSZMENU	This security key should only be assigned to those persons who will manage the BSTS system. It should not be given to the general RPMS user population.

3.5 Secondary Menu Options

All users of the BSTS GUI lookup tool (found on the EHR Integrated Problem List, Order Entry, and in other EHR components) must have BSTSRPC assigned as a secondary menu option in their RPMS user definition.

4.0 Menu Diagram

RPMS menus in the BSTS system:

IHS Standard Terminology Management [BSTSMENU]. This menu option requires key BSTSZMENU and contains the following four options for managing BSTS:

- **Edit Terminology Site Parameters** [BSTS EDIT SITE PARAMETERS]. Updates site specific configuration settings. This option requires the BSTSZMENU security key.
- **Add/Edit Terminology Web Service** [BSTS WEB SERVICE]. Updates information about web services used by the site. This option requires the BSTSZMENU security key.
- **Terminology Web Service Test** [BSTS TEST WEB SERVICE]. Performs a test call to a web service. This option requires the BSTSZMENU security key.
- **Refresh IHS Standard Terminology Subsets** [BSTS REFRESH SUBSETS]. This option refreshes all of the subsets for a given codeset.

5.0 Routine

5.1 Routines with Description

This routine list describes each routine in this version.

Routine	Description
BSTS1POS	Post-installation program to initialize site parameters
BSTSAPI	Main API front end routine
BSTSAPIA	API program routine
BSTSAPIB	API program routine
BSTSAPIC	API program routine
BSTSAPID	API program routine
BSTSAPIF	API program routine
BSTSCLAS	Routine used import/export Caché class information
BSTSCDET	Routine to return concept detail information
BSTSCMCL	Routine containing Caché method calls
BSTSDTS0	Routine for DTS specific processing
BSTSDTS1	Secondary routine for DTS specific processing
BSTSDTS2	Third routine for DTS specific processing
BSTSDTS3	Fourth routine for DTS specific processing
BSTSLKP	Routine containing Concept ID, DTS ID, and Description ID lookups
BSTSLSRC	Routine containing local cache search logic
BSTSRPC	RPC SNOMED search call.
BSTSSRCH	Routine containing search logic and concept detail retrieval
BSTSTST	Routine containing test web service call option code
BSTSUPD	This routine is used by the menu options to update site parameters and webservices.
BSTSUTIL	BSTS utility function routine
BSTSVRSN	Version and subset handling routine
BSTSWSV	Routine used to retrieve web service connection information
BSTSWSV1	Second routine used to retrieve web service connection information

5.2 API List

5.2.1 $$SEARCH^BSTSAPI

This API allows a specific code set version to be searched on for a particular input string. The result set can be filtered by subset, maximum records, and other filtering criteria.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter.

Parameter: IN

Data Type: String (Optional)

Description:

Search String^Search Type^Namespace ID^Filter Subset^Date to Check^Maximum Number Concepts^Return Info^Add/Retire Date^Batch Return^Batch Return Concept Number^Local^Debug

Values:

- **Search String**. String to search on
- **Search Type**:
  - F-Fully specified name
  - S-Synonyms
- **Namespace ID** (Optional). Default is 36 (SNOMED CT US Extension). Available namespaces are:
  - 36 (SNOMED CT US Extension)
  - 5180 (FDA UNII)
  - 1552 (RxNorm R)
  - 32773 (GMRA Allergies with Maps)
  - 32772 (GMRA Signs Symptoms)
  - 32771 (IHS VANDF)
  - 32774 (IHS Med Route)
  - 32770 (ECLIPS)
- **Filter Subset** (Optional). Subsets to filter on – separate multiple subsets using "~". Default to "IHS Problem List". Passing "ALL" returns all allowable SNOMED terms (when looking up on SNOMED).
- **Date to Check** (Optional). Default to Today (FileMan format)

- **Maximum Number of Concepts to Return** (Optional). Default 25
- **Return Info** (Optional). Default is all "PSBIXCAV":
  - **P**. Preferred
  - **S**. Synonym
  - **B**. Subset
  - **I**. IsA
  - **X**. ICD9
  - **C**. Children
  - **A**. Associations
  - **V**. Inv. Associations
- **Add or Retire Date Information** (Optional). Pass **1** to NOT return data
- **Batch Return** (Optional). Start at record # (used in conjunction with **Return Info**)
- **Batch Return** Concept Number (Optional). Number of concepts to return per batch (used in conjunction with **Maximum Number of Concepts to Return**)
- **Local** (Optional). Pass **1** to perform local listing, otherwise leave blank for remote listing
- **Debug** (Optional). Pass **1** to display debug information

Parameter: VAR

Data Type: String List

Description:The VAR(#) list of records returns the following sections (based on the IN Parameters **Maximum Number Concepts to Return** and **Return Info**):

- **Concept ID/DTSID**:
  - VAR(#,"CON")=Concept ID
  - VAR(#,"DTS")=Internal DTS ID
- **Fully Specified Name**:
  - VAR(#,"FSN", "DSC")= Description ID of the FSN
  - VAR(#,"FSN","TRM")=Fully Specified Name
  - VAR(#,"FSN","XADT")=Date Added
  - VAR(#,"FSN","XRDT")=Date Retired
- **ICD9 Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ICD",CTR,"COD")=ICD9 Code
  - VAR(#,"ICD",CTR,"TYP")=Code Type(ICD)
  - VAR(#,"ICD",CTR,"XADT")=Date Added
  - VAR(#,"ICD",CTR,"XRDT")=Date Retired

- **IsA Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ISA",CTR,"CON")=Concept ID of IsA Term (may be blank prior to lookup)
  - VAR(#,"ISA",CTR,"DTS")=DTSId of the IsA Term
  - VAR(#,"ISA",CTR,"TRM")=IsA Term Name
  - VAR(#,"ISA",CTR,"XADT")=Date Added
  - VAR(#,"ISA",CTR,"XRDT")=Date Retired
- **Association Information (SNOMED) - Multiple Records Returned (CTR)**:
  - VAR(#,"ASM",CTR,"CON")=SNOMED Concept CT Association
  - VAR(#,"ASM",CTR,"DTS")=DTSId of the SNOMED Concept
- **Association Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"ARX",CTR,"CON")=RxNorm Code Value Association
  - VAR(#,"ARX",CTR,"DTS")=DTSId of the RxNorm Concept
- **Association Information (UNII) - Multiple Records Returned (CTR)**:
  - VAR(#,"ASN",CTR,"CON")=UNII Code Value Association
  - VAR(#,"ASN",CTR,"DTS")=DTSId of the UNII Concept
- **Inverse Association Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"IAR",CTR,"CON")=RxNorm Code Value of Inverse Association
  - VAR(#,"IAR",CTR,"DTS")=DTSId of the RxNorm Concept
  - VAR(#,"IAR",CTR,"TRM")=Inverse Association Term
- **Child Information - Multiple Records Returned (CTR)**:
  - VAR(#,"CHD",CTR,"CON")=Concept ID of Child Term (may be blank prior to detail lookup)
  - VAR(#,"CHD",CTR,"DTS")=DTSId of the Child Term
  - VAR(#,"CHD",CTR,"TRM")=IsA Term Name
  - VAR(#,"CHD",CTR,"XADT")=Date Added
  - VAR(#,"CHD",CTR,"XRDT")=Date Retired
- **Lookup Problem Column Value** (Preferred Term Information for concept for Search Type [F] or Synonym or Preferred Term Information for Search Type [S]):
  - VAR(#,"PRB","DSC")=Description ID of a Pref Term (Type F) or Synonym/Pref Term (S)
  - VAR(#,"PRB","TRM")=Preferred Name of a Concept (F) or a Synonym/Preferred Name (S)

- **Preferred Term Information**:
  - VAR(#,"PRE","DSC")=Description ID of Preferred Term
  - VAR(#,"PRE","TRM")=Preferred Term
  - VAR(#,"PRE","XADT")=Date Added
  - VAR(#,"PRE","XRDT")=Date Retired
- **Subset Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SUB",CTR,"SUB")=Subset Name
  - VAR(#,"SUB",CTR,"XADT")=Date Added
  - VAR(#,"SUB",CTR,"XRDT")=Date Retired
- **Synonym Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SYN",CTR,"DSC")=Description ID of Synonym
  - VAR(#,"SYN",CTR,"TRM")=Synonym Term
  - VAR(#,"SYN",CTR,"XADT")=Date Added
  - VAR(#,"SYN",CTR,"XRDT")=Date Retired
- **Date Concept Added/Retired**:
  - VAR(#,"XADT")=Date Added
  - VAR(#,"XRDT")=Date Retired

Parameter: <return value>

Data Type: String

Description:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**: Remote information returned
  - **1**: Local information returned
  - **0**: No Information Returned
- **Primary Remote Error Message**
- **Secondary Remote Error Message (if applicable)**

5.2.2 $$CODESETS^BSTSAPI

This API returns a list of available terminology code sets supported by the Apelon DTS Version 4 software.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String

Description (Optional):

Local^Debug

Values:

- **Local** (Optional). Pass **1** to perform local listing, otherwise leave blank for remote listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description: List of records in the format:

Codeset ID^Codeset Code^Codeset Name

Parameter: <return value>

Data Type: String

Description:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**
- **Secondary Remote Error Message** (if applicable)

5.2.3 $$VERSIONS^BSTSAPI

This API will return a list of available versions for the supplied code set.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String

Description (Optional):

Namespace^Local^Debug.

Values:

- **Namespace ID** (Optional). Default to SNOMED CT US Exensions (#36)
- **Local** (Optional). Pass **1** to perform local listing, otherwise leave blank for remote listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description (List of records):

Version ID^Version Name^Version Release Date^Version Install Date

Parameter: <return value>

Data Type: String

Description:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**: Remote information returned
  - **1**: Local information returned
  - **0**: No Information Returned
- **Primary Remote Error Message**
- **Secondary Remote Error Message** (if applicable)

5.2.4 $$CVRSN^BSTSAPI

This API will return the current version in use for the supplied code set.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String (Optional)

Description:

Namespace ID^Local^Debug

Values:

- **Namespace ID** (Optional). Default to SNOMED CT US Extensions (#36).
- **Local** (Optional). Pass **1** to perform local listing, otherwise leave blank for remote listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description (List of records):

Version ID^Version Name^Version Release Date^Version Install Date (if available).

Parameter: <return value>

Data Type: String

Description:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**
- **Secondary Remote Error Message** (if applicable).

5.2.5 $$MPADVICE^BSTSAPI

This API will return map advice information for a particular SNOMED® Term.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String (Optional)

Description:

The Concept ID^Local^Exclude Info^Debug

Values:

- **Concept ID**. The Concept ID to look up.
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** for remote DTS listing.
- **Exclude Info**. Pass **1** to exclude add/retired date info from the output.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description: The VAR(#) list of records returns the mapping information on file for the specified concept. Multiple records per concept could be returned.

Format:

VAR(#,"MPADV","VAL")=Mapping Advice

VAR(#,"MPCVL","VAL")=Map Classification Information

VAR(#,"MPGRP","VAL")=Map Group

VAR(#,"MPPRI","VAL")=Map Priority

VAR(#,"MPRUL","VAL")=Map Rule

VAR(#,"MPTGN","VAL")=Map Target Name

VAR(#,"MPTGT","VAL")=Map Target Code

Parameter: <return value>

Data Type: String

Description:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**
- **Secondary Remote Error Message** (if applicable)

5.2.6 $$SUBSET^BSTSAPI

This API will return all of the available subsets that are available for a given code set.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String (Optional)

Description:

Namespace ID^Local^Debug

Values:

- **Namespace ID** (Optional). Default to SNOMED CT US Extension (#36)
- **Local** (Optional). Pass **1** or leave blank to perform local listing. Pass **2** for remote DTS listing
- **Debug** (Optional). Pass **1** to display debug information

Parameter: VAR

Data Type: String List

Description: The VAR(#) list of records returns the list of available subsets for the given namespace.

Format:

VAR(#)=Subset Name

Parameter: <return value>

Data Type: String

Description:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**
- **Secondary Remote Error Message** (if applicable)

5.2.7 $$SUBLST^BSTSAPI

This API will return all of the concepts found in a specified subset. Since these results could be quite extensive, it is recommended that the results be returned in a scratch global.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String (Optional)

Description:

Subset^Namespace ID^Local^Debug

Values:

- **Subset** (Required). The name of the subset to list the concepts for
- **Namespace ID** (Optional). Default to SNOMED CT US Extension (#36)
- **Local** (Optional). Pass **1** or leave blank to perform local listing. Pass **2** for remote DTS listing
- **Debug** (Optional). Pass **1** to display debug information

Parameter: VAR

Data Type: String List

Description:

Format:

VAR(#)=Concept ID^Description ID of Preferred Term^Preferred Term

Parameter: <return value>

Data Type: String

Description:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**

- **Secondary Remote Error Message** (if applicable)

5.2.8 $$VALTERM^BSTSAPI

This API will determine whether a supplied term is a valid in a given code set and version.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String (Optional)

Description:

Search Term^Codeset ID^Snapshot Date^Local^Debug

Values:

- **Search Term**. The exact term for lookup.
- **Codeset ID** (Optional). Default to SNOMED CT US Extension ('36'). Available namespaces are:
  - 36 (SNOMED CT US Extension)
  - 5180 (FDA UNII)
  - 1552 (RxNorm R)
  - 32773 (GMRA Allergies with Maps)
  - 32772 (GMRA Signs Symptoms)
  - 32771 (IHS VANDF)
  - 32774 (IHS Med Route)
  - 32770 (ECLIPS)
- **Snapshot Date**. Snapshot Date to check. Default Today's Date.
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** for remote DTS listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description: The VAR(#) list of records returns the following sections (based on the IN Parameters **Maximum Number Concepts** and **Return Info**):

- **Concept ID/DTSID**:

  - VAR(#,"CON")=Concept ID
  - VAR(#,"DTS")=Internal DTS ID
- **Fully Specified Name**:
  - VAR(#,"FSN", "DSC")= Description ID of the FSN
  - VAR(#,"FSN","TRM")=Fully Specified Name
  - VAR(#,"FSN","XADT")=Date Added
  - VAR(#,"FSN","XRDT")=Date Retired
- **ICD9 Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ICD",CTR,"COD")=ICD9 Code
  - VAR(#,"ICD",CTR,"TYP")=Code Type(ICD)
  - VAR(#,"ICD",CTR,"XADT")=Date Added
  - VAR(#,"ICD",CTR,"XRDT")=Date Retired
- **IsA Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ISA",CTR,"CON")=Concept ID of IsA Term (may be blank prior to lookup)
  - VAR(#,"ISA",CTR,"DTS")=DTSId of the IsA Term
  - VAR(#,"ISA",CTR,"TRM")=IsA Term Name
  - VAR(#,"ISA",CTR,"XADT")=Date Added
  - VAR(#,"ISA",CTR,"XRDT")=Date Retired
- **Association Information (SNOMED) - Multiple Records Returned (CTR)**:
  - VAR(#,"ASM",CTR,"CON")=SNOMED Concept CT Association
  - VAR(#,"ASM",CTR,"DTS")=DTSId of the SNOMED Concept
- **Association Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"ARX",CTR,"CON")=RxNorm Code Value Association
  - VAR(#,"ARX",CTR,"DTS")=DTSId of the RxNorm Concept
- **Association Information (UNII) - Multiple Records Returned (CTR)**:
  - VAR(#,"ASN",CTR,"CON")=UNII Code Value Association
  - VAR(#,"ASN",CTR,"DTS")=DTSId of the UNII Concept
- **Inverse Association Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"IAR",CTR,"CON")=RxNorm Code Value of Inverse Association
  - VAR(#,"IAR",CTR,"DTS")=DTSId of the RxNorm Concept
  - VAR(#,"IAR",CTR,"TRM")=Inverse Association Term
- **Child Information - Multiple Records Returned (CTR)**:

  - VAR(#,"CHD",CTR,"CON")=Concept ID of Child Term (may be blank prior to detail lookup)
  - VAR(#,"CHD",CTR,"DTS")=DTSId of the Child Term
  - VAR(#,"CHD",CTR,"TRM")=IsA Term Name
  - VAR(#,"CHD",CTR,"XADT")=Date Added
  - VAR(#,"CHD",CTR,"XRDT")=Date Retired
- **Lookup Problem Column Value** (Preferred Term Information for concept for Search Type [F] or Synonym or Preferred Term Information for Search Type [S]):
  - VAR(#,"PRB","DSC")=Description ID of a Pref Term (Type F) or Synonym/Pref Term (S)
  - VAR(#,"PRB","TRM")=Preferred Name of a Concept (F) or a Synonym/Preferred Name (S)
- **Preferred Term Information**:
  - VAR(#,"PRE","DSC")=Description ID of Preferred Term
  - VAR(#,"PRE","TRM")=Preferred Term
  - VAR(#,"PRE","XADT")=Date Added
  - VAR(#,"PRE","XRDT")=Date Retired
- **Subset Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SUB",CTR,"SUB")=Subset Name
  - VAR(#,"SUB",CTR,"XADT")=Date Added
  - VAR(#,"SUB",CTR,"XRDT")=Date Retired
- **Synonym Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SYN",CTR,"DSC")=Description ID of Synonym
  - VAR(#,"SYN",CTR,"TRM")=Synonym Term
  - VAR(#,"SYN",CTR,"XADT")=Date Added
  - VAR(#,"SYN",CTR,"XRDT")=Date Retired
- **Date Concept Added/Retired**:
  - VAR(#,"XADT")=Date Added
  - VAR(#,"XRDT")=Date Retired

Result returned as:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned

  - **0**. No Information Returned
- **Primary Remote Error Message**
- **Secondary Remote Error Message** (if applicable)

Parameter: <return value>

Data Type: String

Description: Result returned as:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**.
- **Secondary Remote Error Message** (if applicable).

5.2.9 $$VALSBTRM^BSTSAPI

This API will return whether a given term is a valid within the supplied subset.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String (Optional)

Description: Specified as:

Description ID^Subset Codeset ID^Local^Debug

Values:

- **Description ID**. The Description ID for lookup.
- **Subset**. Subset to look for.
- **Codeset ID**. Default to SNOMED CT US Extension (‘36’).
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** for remote DTS lisitng.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description: Single VAR record is returned.

Values:

- **1**. Term is in the provided subset
- **0**. Term is not in the provided subset

Parameter: <return value>

Data Type: String

Description: Result returned as:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**.
- **Secondary Remote Error Message** (if applicable).

5.2.10 $$CNCLKP^BSTSAPI

This API will return the detail information for the specified Concept ID.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String (Optional)

Description: Specified as:

The Concept ID^Codeset ID^Snapshot Date^Local^Debug

Values:

- **Concept ID**. The Concept ID to look up
- **Codeset ID** (Optional). Default to SNOMED CT US Extensions (36) – Available namespaces are 36 (SNOMED CT US Extension, 5180 (FDA UNII), 1552 (RxNorm R)

- **Snapshot Date**. Snapshot Date to check. Default Today's Date.
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** to perform a remote DTS listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description: The VAR(#) list of records returns the following:

- **Concept ID/DTSID**:
  - VAR(#,"CON")=Concept ID
  - VAR(#,"DTS")=Internal DTS ID
- **Fully Specified Name**:
  - VAR(#,"FSN", "DSC")= Description ID of the FSN
  - VAR(#,"FSN","TRM")=Fully Specified Name
  - VAR(#,"FSN","XADT")=Date Added
  - VAR(#,"FSN","XRDT")=Date Retired
- **ICD9 Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ICD",CTR,"COD")=ICD9 Code
  - VAR(#,"ICD",CTR,"TYP")=Code Type(ICD)
  - VAR(#,"ICD",CTR,"XADT")=Date Added
  - VAR(#,"ICD",CTR,"XRDT")=Date Retired
- **IsA Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ISA",CTR,"CON")=Concept ID of IsA Term (may be blank prior to lookup)
  - VAR(#,"ISA",CTR,"DTS")=DTSId of the IsA Term
  - VAR(#,"ISA",CTR,"TRM")=IsA Term Name
  - VAR(#,"ISA",CTR,"XADT")=Date Added
  - VAR(#,"ISA",CTR,"XRDT")=Date Retired
- **Association Information (SNOMED) - Multiple Records Returned (CTR)**:
  - VAR(#,"ASM",CTR,"CON")=SNOMED Concept CT Association
  - VAR(#,"ASM",CTR,"DTS")=DTSId of the SNOMED Concept
- A**ssociation Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"ARX",CTR,"CON")=RxNorm Code Value Association
  - VAR(#,"ARX",CTR,"DTS")=DTSId of the RxNorm Concept
- **Association Information (UNII) - Multiple Records Returned (CTR)**:

  - VAR(#,"ASN",CTR,"CON")=UNII Code Value Association
  - VAR(#,"ASN",CTR,"DTS")=DTSId of the UNII Concept
- **Inverse Association Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"IAR",CTR,"CON")=RxNorm Code Value of Inverse Association
  - VAR(#,"IAR",CTR,"DTS")=DTSId of the RxNorm Concept
  - VAR(#,"IAR",CTR,"TRM")=Inverse Association Term
- **Child Information - Multiple Records Returned (CTR)**:
  - VAR(#,"CHD",CTR,"CON")=Concept ID of Child Term (may be blank prior to detail lookup)
  - VAR(#,"CHD",CTR,"DTS")=DTSId of the Child Term
  - VAR(#,"CHD",CTR,"TRM")=IsA Term Name
  - VAR(#,"CHD",CTR,"XADT")=Date Added
  - VAR(#,"CHD",CTR,"XRDT")=Date Retired
- **Lookup Problem Column**:
  - VAR(#,"PRB","DSC")=Description ID of a Pref Term (Type F) or Synonym/Pref Term (S)
  - VAR(#,"PRB","TRM")=Preferred Name of a Concept (F) or a Synonym/Preferred Name (S)
- **Preferred Term Information**:
  - VAR(#,"PRE","DSC")=Description ID of Preferred Term
  - VAR(#,"PRE","TRM")=Preferred Term
  - VAR(#,"PRE","XADT")=Date Added
  - VAR(#,"PRE","XRDT")=Date Retired
- **Subset Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SUB",CTR,"SUB")=Subset Name
  - VAR(#,"SUB",CTR,"XADT")=Date Added
  - VAR(#,"SUB",CTR,"XRDT")=Date Retired
- **Synonym Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SYN",CTR,"DSC")=Description ID of Synonym
  - VAR(#,"SYN",CTR,"TRM")=Synonym Term
  - VAR(#,"SYN",CTR,"XADT")=Date Added
  - VAR(#,"SYN",CTR,"XRDT")=Date Retired
- **Date Concept Added/Retired**:
  - VAR(#,"XADT")=Date Added
  - VAR(#,"XRDT")=Date Retired

Parameter: <return value>

Data Type: String

Description: Result returned as:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**.
- **Secondary Remote Error Message (**if applicable).

5.2.11 $$DTSLKP^BSTSAPI

This API will return the detail information for the specified DTS ID.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String

Description: Specified as:

The DTS ID^Codeset ID^Snapshot Date^Local^Debug

Values:

- **DTS ID**. The DTS ID to look up.
- **Codeset ID** (Optional). Default to SNOMED CT US Extensions (‘36’) - Available namespaces are:
  - 36 (SNOMED CT US Extension)
  - 5180 (FDA UNII)
  - 1552 (RxNorm R)
  - 32773 (GMRA Allergies with Maps)
  - 32772 (GMRA Signs Symptoms)
  - 32771 (IHS VANDF)
  - 32774 (IHS Med Route).
  - 32770 (ECLIPS)

- **Snapshot Date**. Snapshot Date to check. Default Today's Date..
- **Local** (Optional). Pass **1** to perform local listing, otherwise leave blank for remote listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description: The VAR(#) list of records returns the following:

- **Concept ID/DTSID**:
  - VAR(#,"CON")=Concept ID
  - VAR(#,"DTS")=Internal DTS ID
- **Fully Specified Name**:
  - VAR(#,"FSN", "DSC")= Description ID of the FSN
  - VAR(#,"FSN","TRM")=Fully Specified Name
  - VAR(#,"FSN","XADT")=Date Added
  - VAR(#,"FSN","XRDT")=Date Retired
- **ICD9 Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ICD",CTR,"COD")=ICD9 Code
  - VAR(#,"ICD",CTR,"TYP")=Code Type(ICD)
  - VAR(#,"ICD",CTR,"XADT")=Date Added
  - VAR(#,"ICD",CTR,"XRDT")=Date Retired
- **IsA Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ISA",CTR,"CON")=Concept ID of IsA Term (may be blank prior to lookup)
  - VAR(#,"ISA",CTR,"DTS")=DTSId of the IsA Term
  - VAR(#,"ISA",CTR,"TRM")=IsA Term Name
  - VAR(#,"ISA",CTR,"XADT")=Date Added
  - VAR(#,"ISA",CTR,"XRDT")=Date Retired
- **Association Information (SNOMED) - Multiple Records Returned (CTR)**:
  - VAR(#,"ASM",CTR,"CON")=SNOMED Concept CT Association
  - VAR(#,"ASM",CTR,"DTS")=DTSId of the SNOMED Concept
- **Association Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"ARX",CTR,"CON")=RxNorm Code Value Association
  - VAR(#,"ARX",CTR,"DTS")=DTSId of the RxNorm Concept
- **Association Information (UNII) - Multiple Records Returned (CTR)**:

  - VAR(#,"ASN",CTR,"CON")=UNII Code Value Association
  - VAR(#,"ASN",CTR,"DTS")=DTSId of the UNII Concept
- **Inverse Association Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"IAR",CTR,"CON")=RxNorm Code Value of Inverse Association
  - VAR(#,"IAR",CTR,"DTS")=DTSId of the RxNorm Concept
  - VAR(#,"IAR",CTR,"TRM")=Inverse Association Term
- **Child Information - Multiple Records Returned (CTR)**:
  - VAR(#,"CHD",CTR,"CON")=Concept ID of Child Term (may be blank prior to detail lookup)
  - VAR(#,"CHD",CTR,"DTS")=DTSId of the Child Term
  - VAR(#,"CHD",CTR,"TRM")=IsA Term Name
  - VAR(#,"CHD",CTR,"XADT")=Date Added
  - VAR(#,"CHD",CTR,"XRDT")=Date Retired
- **Lookup Problem Column Value**:
  - VAR(#,"PRB","DSC")=Description ID of a Pref Term (Type F) or Synonym/Pref Term (S)
  - VAR(#,"PRB","TRM")=Preferred Name of a Concept (F) or a Synonym/Preferred Name (S)
- **Preferred Term Information**:
  - VAR(#,"PRE","DSC")=Description ID of Preferred Term
  - VAR(#,"PRE","TRM")=Preferred Term
  - VAR(#,"PRE","XADT")=Date Added
  - VAR(#,"PRE","XRDT")=Date Retired
- Subset **Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SUB",CTR,"SUB")=Subset Name
  - VAR(#,"SUB",CTR,"XADT")=Date Added
  - VAR(#,"SUB",CTR,"XRDT")=Date Retired
- **Synonym Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SYN",CTR,"DSC")=Description ID of Synonym
  - VAR(#,"SYN",CTR,"TRM")=Synonym Term
  - VAR(#,"SYN",CTR,"XADT")=Date Added
  - VAR(#,"SYN",CTR,"XRDT")=Date Retired
- **Date Concept Added/Retired**:
  - VAR(#,"XADT")=Date Added
  - VAR(#,"XRDT")=Date Retired

Parameter: <return value>

Data Type: String

Description: Result returned as:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**.
- **Secondary Remote Error Message** (if applicable).

5.2.12 $$DSCLKP^BSTSAPI

This API will return the detail information for the specified Description ID.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String

Description: Specified as:

Description ID^Codeset ID^Local^Debug

Values:

- **Description ID**. The Description ID to look up.
- **Codeset ID** (Optional). Default to SNOMED CT US Extensions ('36') – Available codesets are:
  - 36 (SNOMED CT US Extensions)
  - 1552 (RxNorm R
  - 5180 (FDA UNII)
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** for remote DTS listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description: The VAR(#) list of records returns the following sections (based on the IN Parameters **Maximum Number Concepts** and **Return Info**):

- **Concept ID/DTSID**:
  - VAR(#,"CON")=Concept ID
  - VAR(#,"DTS")=Internal DTS ID
- **Fully Specified Name**:
  - VAR(#,"FSN", "DSC")= Description ID of the FSN
  - VAR(#,"FSN","TRM")=Fully Specified Name
  - VAR(#,"FSN","XADT")=Date Added
  - VAR(#,"FSN","XRDT")=Date Retired
- **ICD9 Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ICD",CTR,"COD")=ICD9 Code
  - VAR(#,"ICD",CTR,"TYP")=Code Type(ICD)
  - VAR(#,"ICD",CTR,"XADT")=Date Added
  - VAR(#,"ICD",CTR,"XRDT")=Date Retired
- **IsA Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ISA",CTR,"CON")=Concept ID of IsA Term (may be blank prior to lookup)
  - VAR(#,"ISA",CTR,"DTS")=DTSId of the IsA Term
  - VAR(#,"ISA",CTR,"TRM")=IsA Term Name
  - VAR(#,"ISA",CTR,"XADT")=Date Added
  - VAR(#,"ISA",CTR,"XRDT")=Date Retired
- **Association Information (SNOMED) - Multiple Records Returned (CTR)**:
  - VAR(#,"ASM",CTR,"CON")=SNOMED Concept CT Association
  - VAR(#,"ASM",CTR,"DTS")=DTSId of the SNOMED Concept
- **Association Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"ARX",CTR,"CON")=RxNorm Code Value Association
  - VAR(#,"ARX",CTR,"DTS")=DTSId of the RxNorm Concept
  - Association Information (UNII) - Multiple Records Returned (CTR):
  - VAR(#,"ASN",CTR,"CON")=UNII Code Value Association
  - VAR(#,"ASN",CTR,"DTS")=DTSId of the UNII Concept

- **Inverse Association Information (RxNorm) - Multiple Records Returned (CTR)**:
  - VAR(#,"IAR",CTR,"CON")=RxNorm Code Value of Inverse Association
  - VAR(#,"IAR",CTR,"DTS")=DTSId of the RxNorm Concept
  - VAR(#,"IAR",CTR,"TRM")=Inverse Association Term
- **Child Information - Multiple Records Returned (CTR)**:
  - VAR(#,"CHD",CTR,"CON")=Concept ID of Child Term (may be blank prior to detail lookup)
  - VAR(#,"CHD",CTR,"DTS")=DTSId of the Child Term
  - VAR(#,"CHD",CTR,"TRM")=IsA Term Name
  - VAR(#,"CHD",CTR,"XADT")=Date Added
  - VAR(#,"CHD",CTR,"XRDT")=Date Retired
- **Lookup Problem Column Value** (Preferred Term Information for concept for Search Type [F] or Synonym or Preferred Term Information for Search Type [S]):
  - VAR(#,"PRB","DSC")=Description ID of a Pref Term (Type F) or Synonym/Pref Term (S)
  - VAR(#,"PRB","TRM")=Preferred Name of a Concept (F) or a Synonym/Preferred Name (S)
- **Preferred Term Information**:
  - VAR(#,"PRE","DSC")=Description ID of Preferred Term
  - VAR(#,"PRE","TRM")=Preferred Term
  - VAR(#,"PRE","XADT")=Date Added
  - VAR(#,"PRE","XRDT")=Date Retired
- **Subset Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SUB",CTR,"SUB")=Subset Name
  - VAR(#,"SUB",CTR,"XADT")=Date Added
  - VAR(#,"SUB",CTR,"XRDT")=Date Retired
- **Synonym Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SYN",CTR,"DSC")=Description ID of Synonym
  - VAR(#,"SYN",CTR,"TRM")=Synonym Term
  - VAR(#,"SYN",CTR,"XADT")=Date Added
  - VAR(#,"SYN",CTR,"XRDT")=Date Retired
- **Date Concept Added/Retired**:
  - VAR(#,"XADT")=Date Added
  - VAR(#,"XRDT")=Date Retired

Parameter: <return value>

Data Type: String

Description: Result returned as:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**.
- **Secondary Remote Error Message** (if applicable).

5.2.13 $$CONC^BSTSAPI

This API will return the detail information for the specified Concept ID.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String

Description: Specified as:

The Concept ID^Codeset ID^Snapshot Date^Local^Debug

Values:

- **Concept ID**. The Concept ID to look up.
- **Codeset ID** (Optional). Default to '36' (SNOMED CT US Extensions) – Available codesets are:
  - 36 (SNOMED CT US Extensions)
  - 1552 (RxNorm R)
  - 5180 (FDA UNII)
- **Snapshot Date**. Snapshot Date to check. Default Today's Date.
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** for remote DTS listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: <return value>

Data Type: String

Description: Result returned as:

FSN Desc ID^FSN^Pref Desc ID^Pref Term^ICD9 list

Values:

- **Description ID of Fully Specified Name**
- **Fully Specified Name**
- **Description ID of Preferred Term**
- **Preferred Term**
- **Delimited list of mapped ICD9 codes** (';' delimiter)

5.2.14 $$DESC^BSTSAPI

This API takes specific information returned by the $$DSCLKP^BSTSAPI API and returns it as part of a function call.

Parameter: IN

Data Type: String

Description: Specified as:

The Description ID^Codeset ID^Local^Debug

Values:

- **Description ID**. The Description ID to look up.
- **Codeset ID** (Optional). Default to '36' (SNOMED CT US Extensions) - Available namespaces are:
  - 36 (SNOMED CT US Extension)
  - 5180 (FDA UNII)
  - 1552 (RxNorm R).
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** for remote DTS listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: <return value>

Data Type: String

Description: Result returned as:

Concept ID^Term Description^ICD9 list

Values:

- **Concept ID**. The Concept ID associated with the specified Description ID.
- **Term Description**. The Term associated with the specified Description ID.
- **ICD9 list**. Delimited list of mapped ICD9 codes (';' delimiter).

5.2.15 $$VSBTRMF^BSTSAPI

This API takes specific information returned by the $$VALSBTRM^BSTSAPI API and returns it as part of a function call.

Parameter: IN

Data Type: String (Optional)

Description: Specified as:

Description ID^Subset Codeset ID^Local^Debug

Values:

- **Description ID**. The Description ID for lookup.
- **Subset**. Subset to look for.
- **Codeset ID**. Default to '36' (SNOMED CT US Extensions).
- **Local** (Optional). Pass **1** to perform local listing, otherwise leave blank for remote listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: <return value>

Data Type: String

Description: Single VAR record is returned.

Value:

- **1**. Term is in the provided subset
- **0**. Term is not in the provided subset

5.2.16 $$ICD2SMD^BSTSAPI

This API Returns the SNOMED terms which map to a given ICD9 code.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter.

Parameter: IN

Data Type: String (Optional)

Description: Specified as:

ICD9 Code^Return Info^Local^Debug^Lookup Date

Values:

- **ICD9 Code**. The ICD9 code to find the SNOMED mappings for.
- **Return Info** (Optional). Default is **BCI**
  - **P**. Preferred
  - **S**. Synonyms
  - **B**. Subset
  - **I**. IsA
  - **X**. ICD9/ICD10
  - **C**. Children
- **Local** (Optional). Pass 1 to perform local listing, otherwise leave blank for remote listing
- **Debug** (Optional). Pass 1 to display debug information
- **Lookup Date (Optional). The date to lookup on (default to T+2).**

Parameter: VAR

Data Type: String List

Description: The VAR(#) list of records returns the following sections (based on the IN Parameters **Maximum Number Concepts** and **Return Info**):

- **Concept ID/DTSID**:
  - VAR(#,"CON")=Concept ID
  - VAR(#,"DTS")=Internal DTS ID
- **Fully Specified Name**:
  - VAR(#,"FSN", "DSC")= Description ID of the FSN
  - VAR(#,"FSN","TRM")=Fully Specified Name

  - VAR(#,"FSN","XADT")=Date Added
  - VAR(#,"FSN","XRDT")=Date Retired
- **ICD9 Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ICD",CTR,"COD")=ICD9 Code
  - VAR(#,"ICD",CTR,"TYP")=Code Type(ICD)
  - VAR(#,"ICD",CTR,"XADT")=Date Added
  - VAR(#,"ICD",CTR,"XRDT")=Date Retired
- **IsA Information - Multiple Records Returned (CTR)**:
  - VAR(#,"ISA",CTR,"CON")=Concept ID of IsA Term (may be blank prior to lookup)
  - VAR(#,"ISA",CTR,"DTS")=DTSId of the IsA Term
  - VAR(#,"ISA",CTR,"TRM")=IsA Term Name
  - VAR(#,"ISA",CTR,"XADT")=Date Added
  - VAR(#,"ISA",CTR,"XRDT")=Date Retired
- **Lookup Problem Column Value** (Preferred Term Information for concept):
  - VAR(#,"PRB","DSC")=Description ID of a Pref Term
  - VAR(#,"PRB","TRM")=Preferred Name of a Concept
- **Preferred Term Information**:
  - VAR(#,"PRE","DSC")=Description ID of Preferred Term
  - VAR(#,"PRE","TRM")=Preferred Term
  - VAR(#,"PRE","XADT")=Date Added
  - VAR(#,"PRE","XRDT")=Date Retired
- **Subset Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SUB",CTR,"SUB")=Subset Name
  - VAR(#,"SUB",CTR,"XADT")=Date Added
  - VAR(#,"SUB",CTR,"XRDT")=Date Retired
- **Synonym Information - Multiple Records Returned (CTR)**:
  - VAR(#,"SYN",CTR,"DSC")=Description ID of Synonym
  - VAR(#,"SYN",CTR,"TRM")=Synonym Term
  - VAR(#,"SYN",CTR,"XADT")=Date Added
  - VAR(#,"SYN",CTR,"XRDT")=Date Retired
- **Date Concept Added/Retired**:
  - VAR(#,"XADT")=Date Added
  - VAR(#,"XRDT")=Date Retired

Parameter: <return value>

Data Type: String

Description: Result returned as:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**.
- **Secondary Remote Error Message** (if applicable).

5.2.17 $$DILKP^BSTSAPI

This API takes accepts a NDC or VUID code and returns the any RxNorm values mapped to that code.

Parameter: OUT

Data Type: String

Description: Output variable/global to return information specified in the VAR parameter that follows.

Parameter: IN

Data Type: String

Description: Specified as:

Code^Type^Local^Debug

Values:

- **Code**. The NDC or VUID code to lookup.
- **Type**. Pass:
  - **N** for NDC lookup
  - **V** for VUID lookup
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** for remote DTS listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: VAR

Data Type: String List

Description: The VAR(#) list of records returns the following information:

- **RxNorm Mappings**:
  - VAR(#,"RXN","CON")=RxNorm Code
  - VAR(1,"RXN","TRM")=RxNorm Code
  - VAR(1,”RXN”,”TDC”)=Tradename Code
  - VAR(1,”RXN”,”TDT”)= Tradename Term

Parameter: <return value>

Data Type: String

Description: Result returned as:

Status^PrimaryErrorMsg^SecondaryErrorMsg

Values:

- **Status**:
  - **2**. Remote information returned
  - **1**. Local information returned
  - **0**. No Information Returned
- **Primary Remote Error Message**.
- **Secondary Remote Error Message** (if applicable).

5.2.18 $$ASSOC^BSTSAPI

This API calls the existing $$VALTERM^BSTSAPI API call (accepting the same input parameters) and returns any association entries for only the first VAR(#) entry. Since most mapping files will return only one VAR(#) entry, this API can be used so its results can be parsed (rather than having to pull the data out of the VAR(#) array pieces).

Parameter: IN

Data Type: String (Optional)

Description: Specified as:

Search Term^Codeset ID^Snapshot Date^Local^Debug

Values:

- **Search Term**. The exact term for lookup.
- **Codeset ID** (Optional). Default to SNOMED CT US Extension (‘36’) - Available namespaces are:

  - 36 (SNOMED CT US Extension)
  - 5180 (FDA UNII)
  - 1552 (RxNorm R)
  - 32773 (GMRA Allergies with Maps)
  - 32772 (GMRA Signs Symptoms)
  - 32771 (IHS VANDF)
  - 32774 (IHS Med Route)
- **Snapshot Date**. Snapshot Date to check. Default Today's Date.
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** for remote DTS listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: <return value>

Data Type: String

Description: Result returned as:

[1]^[2]^[3]

Values:

- [1] SNOMED Association(s) (";" delimited)
- [2] RxNorm Association(s) (";" delimited)
- [3] UNII Association(s) (";" delimited)

Parameter	Data Type	Description
<return value>	String	Result returned as: [1]^[2]^[3] Values: [1] SNOMED Association(s) (";" delimited) [2] RxNorm Association(s) (";" delimited) [3] UNII Association(s) (";" delimited)

5.2.19 $$DI2RX^BSTSAPI

This API calls the existing $$DILKP^BSTSAPI API call (accepting the same input parameters) and returns only the first RxNorm value associated with the entry.

Parameter: IN

Data Type: String

Description: Specified as:

Code^Type Local^Debug

Values:

- **Code**. The NDC or VUID code to lookup.
- **Type**. Pass:
  - **N** for NDC lookup
  - **V** for VUID lookup
- **Local** (Optional). Pass **1** or blank to perform local listing. Pass **2** for remote DTS listing.
- **Debug** (Optional). Pass **1** to display debug information.

Parameter: <return value>

Data Type: String

Description: Result returned as:

[1]^[2]^[3]^[4]

Values:

- [1] RxNorm Code
- [2] RxNorm Term
- [3] Tradename RxNorm Code
- [4] Tradename RxNorm Term

6.0 Files and Tables

6.1 File List

The following table contains a list of new files.

File #	Filename	Description
9002318	BSTS SITE PARAMETERS	This file contains a list of categories used in the IPC tab.
9002318.1	BSTS CODESET	This file contains layout templates uploaded for use by any BSTS user.
9002318.2	BSTS WEB SERVICE ENDPOINT	This file contains information about the connections to web service endpoints.
9002318.3	BSTS TERMINOLOGY	This file contains information that was downloaded via the web service interface.
9002318.4	BSTS CONCEPT	This file contains the concepts that were downloaded via the web service interface.
9002318.5	BSTS CACHE CLASS TRANSPORT	This file contains the classes that will need to be defined as part of the installation.

6.2 File Access

The following table contains the FileMan access to new files.

File #	Filename	GL	RD	WR	LYG	DD	DEL
9002318	BSTS SITE PARAMETERS	^BSTS(9002318,	@	@	@	@	@
9002318.1	BSTS CODESET	^BSTS(9002318.1,	@	@	@	@	@
9002318.2	BSTS WEB SERVICE ENDPOINT	^BSTS(9002318.2,	@	@	@	@	@
9002318.3	BSTS TERMINOLOGY	^BSTS(9002318.3,	@	@	@	@	@
9002318.4	BSTS CONCEPT	^BSTS(9002318.4,	@	@	@	@	@
9002318.5	BSTS CACHE CLASS TRANSPORT	^BSTSCLS(	@	@	@	@	@

6.3 Cross References

9002318 (BSTS SITE PARAMETERS**)**

.01 Name

B Regular type cross reference

1 WEBSERVICE (multiple)

.01 Webservice

B Regular type cross reference

.02 Priority

C Regular type cross reference for entire file

9002318.1 (BSTS CODESET**)**

.01 Name

B Regular type cross reference

.02 Code

C Regular type cross reference

9002318.2 (BSTS WEB SERVICE ENDPOINT**)**

.01 Name

B Regular type cross reference

9002318.3 (BSTS TERMINOLOGY**)**

.01 Counter

B Regular type cross reference

1 Term

E MUMPS

New Style Cross References

C Codeset,Concept ID,IEN

D Codeset, Description ID

9002318.4 (BSTS CONCEPT**)**

.01 Counter

B Regular type cross reference

4 Subsets (multiple)

.01 Subsets

B Regular type cross reference

E Regular type cross reference for entire file

New Style Cross References

C Codeset,Concept ID,IEN

D Codeset,DTS ID,IEN

3 ICD Mapping (multiple)

.02 CODE

F Codeset,CODE, IEN

7 NDC (multiple)

.01 NDC

B Regular type cross reference

G Regular type cross reference for entire file

New Style Cross References

Codeset, NDC, IEN, NDC IEN

8 VUID (multiple)

.01 VUID

B Regular type cross reference

H Regular type cross reference for entire file

New Style Cross References

Codeset, VUID, IEN, VUID IEN

.01 ICD9 TO SNOMED MAP

B Regular type cross reference

I Regular type cross reference for entire file

New Style Cross Reference

Codeset, ICD TO SNOMED MAP, IEN, ICD TO SNOMED MAP IEN

9002318.5 (BSTS CACHE CLASS TRANSPORT**)**

.01 Package Name

B Regular type cross reference

11 Class (multiple)

.01 Class

B Regular type cross reference

6.4 Table File

File: 9002318 BSTS SITE PARAMETERS

Global: ^BSTS(9002318,

Field #	Field Name	Subscript	Piece	Type
.01	NAME	D0,0	1	P
.02	REFRESH SUBSETS EVERY # DAYS	“	2	N
1	WEB SERVICES (9002318.01)	D0,1,D1,0		
.01	WEB SERVICE	"	1	P
.02	PRIORITY	"	2	N
.03	DAYS TO KEEP RESPONSE		3	N

File: 9002318.1 BSTS CODESET

Global: ^BSTS(9002318.1,

Field #	Field Name	Subscript	Piece	Type
.01	ID	D0,0	1	F
.02	CODE	"	2	F
.03	NAME	"	3	F
.04	CURRENT VERSION	"	4	F
.05	LAST VERSION CHECK	"	5	D
.06	LAST SUBSET CHECK	“	6	D
1	VERSIONS (9002318.11)	D0,1,D1,0		
.01	ID	"	1	F

Field #	Field Name	Subscript	Piece	Type
.02	NAME		2	F
.03	RELEASE DATE		3	D
.04	INSTALL DATE		4	D

File: 9002318.2 BSTS WEB SERVICE ENDPOINT

Global: ^BSTS(9002318.2,

Field #	Field Name	Subscript	Piece	Type
.01	NAME	D0,0	1	F
.02	URL ROOT	"	2	F
.03	PORT NUMBER	"	3	F
.04	TYPE	"	4	S
.05	TIMEOUT OVERRIDE	"	5	F
.06	CURRENT VERSION	"	6	F
.07	USERNAME		7	F
.08	PASSWORD		8	F
.09	INACTIVE		9	S
.1	INACTIVE DATE		10	D
.11	SERVICE PATH		11	F
.12	CONNECTION TIMEOUT OVERRIDE		12	N
1	VERSION (9002318.21)	D0,1,D1,0	1	
.01	VERSION	“	1	F
.02	DATE INSTALLED	“	2	D

File: 9002318.3 BSTS TERMINOLOGY

Global: ^BSTS(9002318.3,

Field #	Field Name	Subscript	Piece	Type
.01	COUNTER	D0,0	1	N
.02	DESCRIPTION ID		2	F
.03	CONCEPT ID	"	3	P
.04	PARTIAL ENTRY	"	4	S
.05	VERSION		5	F
.06	REVISION IN		6	D
.07	REVISION OUT		7	D
.08	CODESET		8	P
.09	TYPE		9	S
.1	LAST MODIFIED		10	D

Field #	Field Name	Subscript	Piece	Type
.11	OUT OF DATE		11	S
1	TERM	D0,1	1	F
10	FREQUENCY	D0,10	1	N

File: 9002318.4 BSTS CONCEPT

Global: ^BSTS(9002318.4,

Field #	Field Name	Subscript	Piece	Type
.01	COUNTER	D0,0	1	N
.02	CONCEPT ID		2	F
.03	PATIAL ENTRY	"	3	S
.04	VERSION		4	F
.05	REVISION IN		5	D
.06	REVISION OUT		6	D
.07	CODESET		7	P
.08	DTS ID		8	F
.09	MAP		9	N
.1	FSN DESCRIPTION ID		10	F
.11	OUT OF DATE		11	S
.12	LAST MODIFIED		12	D
1	FULLY SPECIFIED NAME	D0,1	1	F
2	MAP ADVICE (9002318.42)	D0,2,D1,0		
.01	NUMBER		1	N
.02	REVISION IN		2	D
.03	REVISION OUT		3	D
1	MAPADVICE	D0,2,D1,0		W
.01	NUMBER		1	N
.02	MAP GROUP		2	F
.03	MG RIN		3	D
.04	MG ROUT		4	D
.05	MAP PRIORITY		5	F
.06	MP RIN		6	D
.07	MP ROUT		7	D
.08	MAP TARGET		8	F
.09	MT RIN		9	D
.1	MT ROUT		10	D
1	MAP ADVICE	D0,2,D1,1	1	W

Field #	Field Name	Subscript	Piece	Type
2	MAP TARGET NAME	D0,2,D1,2	1	W
3	MAP RULE	D0,2,D1,3	1	W
4	MAP CATEGORY VALUE	D0,2,D1,4	1	W
5.01	MA RIN	D0,2,D1,5	1	D
5.02	MA ROUT		2	D
5.03	MR RIN		3	D
5.04	MR ROUT		4	D
5.05	MTN RIN		5	D
5.06	MTN ROUT		6	D
5.07	MCV RIN		7	D
5.08	MCV ROUT		8	D
3	ICD MAPPING (9002318.43)	D0,3,D1,0		
.01	COUNTER		1	N
.02	CODE		2	F
.03	CODE TYPE		3	S
.04	REVISION IN		4	D
.05	REVISION OUT		5	D
4	SUBSETS (9002318.44)	D0,4,D1,0		
.01	SUBSETS		1	F
.02	REVISION IN		2	D
.03	REVISION OUT		3	D
5	IS A RELATIONSHIP (9002318.45)	D0,5,D1,0		
.01	IS A RELATIONSHIP		1	P
.02	REVISION IN		2	D
.03	REVISION OUT		3	D
10	FREQUENCY	D0,10	1	N
6	SUBCONCEPTS	D0,6,D1,0		
.01	SUBCONCEPTS (9002318.46)		1	P
.02	REVISION IN		2	D
.03	REVISION OUT		3	D
7	NDC	D0,7,D1,0		
.01	NDC		1	F
.02	REVISION IN		2	D
.03	REVISION OUT		3	D
8	VUID	D0,8,D1,0		

Field #	Field Name	Subscript	Piece	Type
.01	VUID		1	F
.02	REVISION IN		2	D
.03	REVISION OUT		3	D
9	ASSOCIATIONS	D0,9,D1,0		
.01	CODE		1	F
.02	CODESET		2	F
.03	CODE DTSID		3	F
10	FREQUENCY	D0,10	1	N
11	INVERSE ASSOCIATIONS	D0,11,D1,0		
.01	CODE		1	F
.02	CODESET		2	F
.03	CODE DTSID		3	F
.03	CODE TERM		4	F
12	TTY	D0,12,D1,0		
.01	TTY		1	F
13	ICD9 TO SNOMED MAP	D0,13,D1,0		
.01	ICD9 TO SNOMED MAP		1	F

File: 9002318.5 BSTS CACHE CLASS TRANSPORT

Global: ^BSTSCLS(

Field #	Field Name	Subscript	Piece	Type
.01	PACKAGE NAME	D0,0	1	F
.02	*INSTALL WHERE		2	S
.04	*PATH	"	4	F
1.01	*RPMS FILENAME	D0,1	1	F
1.02	RPMS STATUS	“	2	S
1.03	RPMS DATE/TIME INSTALLED	“	3	D
2.01	*ENSEMBLE FILENAME	D0,2	1	F
2.02	*ENSEMBLE STATUS	“	2	S
2.03	*ENSEMBLE DATE/TIME INSTALLED		3	D
10	XML (9002318.51)	D0,10,D1,		W
11	CLASS (9002318.511)	D0,11,D1		
.01	CLASS		1	F

6.5 Callable Routines

There are no remote procedure calls added in this release.

Name	Tag	Routine
BSTS GET SUBSET LIST	SUBSET	BSTSRPC
BSTS ICD9 TO SNOMED	ICD2SMD	BSTSRPC
BSTS SNOMED SEARCH	SEARCH	BSTSRPC
BSTS SNOMED UNIVERSE SEARCH	USEARCH	BSTSRPC

6.6 Published Entry Points

- BSTSAPI.INT
- SEARCH(OUT,IN) ;PEP - Perform Codeset Search
- CODESETS(OUT,IN) ;PEP - Return list of available code sets
- VERSIONS(OUT,IN) ;PEP - Return a list of available versions for a code set
- CVRSN(OUT,IN) ;PEP - Return the Current Version For the Code Set
- SUBSET(OUT,IN) ;PEP - Return the list of subsets available for a Code Set
- VALTERM() ;PEP - Returns whether a given term is valid
- DSCLKP(OUT,IN) ;PEP - Returns detail information for a specified Description ID
- DTSLKP(OUT,IN) ;PEP - Returns detail information for a specified DTS ID
- CNCLKP(OUT,IN) ;PEP - Returns detail information for a specified Concept ID
- ASSOC(IN) ;PEP - Returns the associations for each type (SMD, RxNorm, UNII)
- DI2RX(IN) ;PEP - Performs a drug ingredient lookup on a specified value
- MPADVICE(OUT,IN) ;PEP – Returns ICD-10 mapping advice for a specified Concept ID
- SUBLST(OUT,IN) ;PEP – Returns a list of concepts in a specified subset
- VALSBTRM(OUT,IN) ;PEP - Returns whether a given term is in a particular subset
- VSBTRMF(IN) ;PEP – Function form of the VALSBTRM call
- ICD2SMD(OUT,IN) ;PEP - Returns the SNOMED terms which map to a given ICD9 code
- DILKP(OUT,IN) ;PEP - Performs a drug ingredient lookup on a specified value
- DESC(IN) – Function form of the DSCLKP call

- CONC(IN) – Function form of the CNCLKP call

7.0 Internal Relations

All functions within this application work independently.

There are no documented internal relations in BSTS.

8.0 External Relations

8.1 External Calls

8.2 Callable Routines–Published Entry Points

This application contains no calls to external published entry points other than to standard Kernel/FileMan calls.

8.3 Exported options

Option Name	Description
BSTSMENU	Menu option
BSTS EDIT SITE PARAMETERS	Edit a site's parameters which include the web service endpoints.
BSTS WEB SERVICE	Add the path and other information needed to connect to a Terminology Web Service.
BSTS TEST WEB SERVICE	Performs a test call to a web service.
BSTS REFRESH SUBSETS	Refreshes the subsets for a specified subsets.

9.0 Archiving and Purging

There is no archiving or purging in BSTS.

10.0 Documentation Resources

This section describes a few methods to generate BSTS technical documentation.

10.1 %INDEX Option

This option analyzes the structure of a routine to determine in part if the routine adheres to RPMS programming standards. The %INDEX output can include the following components:

- Compiled list of errors and warnings
- Routine listing
- Local variables
- Global variables
- Naked globals
- Label references
- External references

Running %INDEX for a specified set of routines allows users to discover any deviations from RPMS programming standards that exist in the selected routines and to see how routines interact with one another (i.e., which routines call or are called by other routines).

To run %INDEX for the Patient Registration package, type the BSTS namespace at the "Routine(s)?>" prompt.

10.2 List File Attributes Option

This VA FileMan option allows users to generate documentation pertaining to files and file structure. Using the standard format of this option yields the following data dictionary information for a specified file:

- File name and description
- Identifiers
- Cross-references
- Files pointed to by the file specified
- Files that point to the file specified
- Input, print, and sort templates

In addition, the following applicable data is supplied for each field in the file:

- Field name, number, title, and description

- Global location
- "Help" prompt
- Cross-references
- Input transform
- Date last edited
- Notes

Using the Global Map format of this option generates an output that lists the following information:

- All cross-references for the file selected
- Global location of each field in the file
- Input, print, and sort templates

11.0 SAC Requirements and Exemptions

No Standards and Conventions (SAC) exemptions are noted at this time, although we may need to pursue an exemption for the use of some Caché classes within the BSTSCMCL routine.

12.0 Templates, Forms, and Protocols

12.1 Print Templates

There are no print templates in BSTS.

12.2 Sort Templates

There are no sort templates in BSTS.

12.3 Input Templates

- BSTS ADD/EDIT WEB SERVICE
- BSTS EDIT SITE PARAMETERS

12.4 List Templates

There are no list templates in BSTS.

12.5 Forms

There are no forms in BSTS.

12.6 Protocols

There are no protocols in BSTS.

13.0 SNOMED CT Search API

13.1 Description of Development Environment

The SNOMED CT Search API was developed using the programming language C# within Microsoft Visual Studio® 2012 integrated development environment. SNOMED CT Search API is written to utilize the .NET 2.0 Framework. All new classes created for the SNOMED CT Search API exist within the namespace IndianHealthService.SNOMEDCTSearch.

In addition to the standard .NET object classes, the SNOMED CT Search API also uses commercially available Windows form controls from Infragistics. All the controls used were part of a package of controls named Infragistics NetAdvantage® for Windows Forms 2010 Volume 3.

In addition, the SNOMED CT Search API also utilizes the BMX version 4.0 software to facilitate data retrieval and updates are handled through the RPCs defined in the BSTSRPC and BMXRPC namespaces.

All of the dynamic link library (dll) files upon which SNOMED CT Search API depend are delivered with the SNOMED CT Search API install package and are stored in the directory specified by the user (default install directory is: C:\GDIT\SNOMED CT Search API).

13.2 SNOMED CT Search API RPMS Server Requirements

The RPMS server portion of the iCare application does not require a specific version of Caché or OS. However, the server needs to be able to support BMX 4.0 fully, and is therefore subject to any requirements needed to run that application. Please refer to the BMX version 4.0 Technical Manual for details.

13.3 List of SNOMED CT Search API Dependencies

The following table shows the graphical user interface dependencies associated with the SNOMED CT Search API application.

Dependency	Assembly Version	Description
MS .Net 2.0 Framework	Version 2.0 with any subsequent service packs from Microsoft	The Microsoft .NET 2.0 Framework is required for the iCare allocation. The iCare installation package will check this prerequisite during install and will assist with the download of this update from Microsoft. If online download is not available, installation will not be allowed until .Net 4.0 has been installed by other means.
BMXNet40.dll	4.0.0.2	This library file contains the general BMXNet 4.0 client-side utilities and functions for connecting to the RPMS server and managing data

Dependency	Assembly Version	Description
		connections.
Infragistics NetAdvantage for Windows Forms 2010 Vol.3	10.3.20103.1000	These dll files are also distributed with the SNOMED CT Search API installation package.

13.4 SNOMED CT Search API–Install

The following table shows all of the files that will be installed with the SNOMED CT Search API. These files are installed in the directory specified by the user (default install directory is: C:\GDIT\SNOMED CT Search API).

Filename	Assembly Version	Description
IndianHealthService.SNOMEDCTSearch	1.0.0.5	This is the main SNOMED CT Search dll. Provides access to search methods.
BMXNET40.dll	4.0.0.2	This library file contains the general BMXNet 4.0 client-side utilities and functions for connecting to the RPMS server and managing data connections.

The following table shows all of the files that are part of a set of enhanced user interface (UI) controls from Infragistics called NetAdvantage for Windows Forms Version 2010 Volume 3.

Filename	Assembly Version	Description
Infragistics4.Shared.v10.3.dll	10.3.20103.1000	This file contains general functions and types common to all of the Infragistics controls.
Infragistics4.Win.Misc.v10.3.dll	10.3.20103.1000	This is a set of other miscellaneous functions and data types used when working with the other Infragistics classes.
Infragistics4.Win.UltraWinEditors.v10.3.dll	10.3.20103.1000	This dll file contains enhanced user interface input controls such as the calendar date picker and special combo boxes.
Infragistics4.Win.UltraWinGrid.v10.3.dll	10.3.20103.1000	The UltraGrid™ is an enhanced data-bound DataGrid used to display tabular data to the user. This also allows users to sort, filter, arrange columns, and select rows of data at run time.
Infragistics4.Win.v10.3.dll	10.3.20103.1000	This file contains classes used at a high level to control application-wide styles and appearances and interface with Windows XP themes, etc.

13.5 SNOMED CT Search API — List of Object Classes

The following table shows the new object classes used within the SNOMED CT Search API. All of the specified class names exist within the namespace IndianHealthService.SNOMEDCTSearch.

Class Name	Assembly	Description
DSNOMEDCTLookup	IndianHealthService.SNOMEDCTSearch.dll	DSNOMEDCTSearch class provides a view to allow users to search SNOMED CT.
ICD9ToSNOMEDCTLookup	IndianHealthService.SNOMEDCTSearch.dll	DSNOMEDCTSearch class provides a view to allow users to search SNOMED CT based on ICD 9 values.

13.6 SNOMED CT Search API — List of Properties by Class

The following table shows the methods by classes used within the SNOMED CT Search API. All of the specified class names exist within the namespace IndianHealthService.SNOMEDCTSearch.

Class Name	Property	Description
DSNOMEDCTLookup	FormSize	Overrides default form size (Width: 800, Height: 600). DataType: System.Drawing.Size
DSNOMEDCTLookup	FormTitle	Overrides default form title (SNOMED CT Lookup). DataType: System.String
DSNOMEDCTLookup	Namespace	Overrides default DTS namespace (36 – SNOMED CT) used to perform search. DataType: System.String
DSNOMEDCTLookup	SearchValue	Value passed initially search on. If blank, no search will be performed until user intervention. DataType: System.String
DSNOMEDCTLookup	DescriptionID	SNOMED CT Description ID DataType: System.String
DSNOMEDCTLookup	Description	SNOMED CT Description DataType: System.String
DSNOMEDCTLookup	ConceptID	SNOMED CT Concept ID DataType: System.String
DSNOMEDCTLookup	ICD	ICD Value associated with returned SNOMED CT DataType: System.String
DSNOMEDCTLookup	NumberofRecords	Maximum number of records to display. DataType: System.String
DSNOMEDCTLookup	DefaultSubset	List of subsets to use for the subset listbox. Overrides the default values provided by SNOMED CT Search API.

Class Name	Property	Description
		DataType: System.Collections.ArrayList
DSNOMEDCTLookup	SelectedSubset	List of subsets to have selected in subset listbox. Appending ":1" will cause the subset to permanent. Users will be unable to deselect it from the subset listbox. "Appending ":0" or leaving the subset as is will continue to allow users to deselect them. DataType: System.Collections.ArrayList
DSNOMEDCTLookup	SNOMEDCTRemoteSession	BMX RemoteSession used to perform data calls to SNOMED CT Search (Terminology Search) RPMS area. DataType: IndianHealthService.BMXNet.RemoteSession
ICD9ToSNOMEDCTLookup	FormSize	Overrides default form size (Width: 800, Height: 600). DataType: System.Drawing.Size
ICD9ToSNOMEDCTLookup	SearchValue	Value passed initially search on. If blank, no search will be performed until user intervention. DataType: System.String
ICD9ToSNOMEDCTLookup	DescriptionID	SNOMED CT Description ID DataType: System.String
ICD9ToSNOMEDCTLookup	Description	SNOMED CT Description DataType: System.String
ICD9ToSNOMEDCTLookup	ConceptID	SNOMED CT Concept ID DataType: System.String
ICD9ToSNOMEDCTLookup	DefaultSubset	List of subsets to use for the subset listbox. Overrides the default values provided by SNOMED CT Search API. DataType: System.Collections.ArrayList
ICD9ToSNOMEDCTLookup	SelectedSubset	List of subsets to have selected in subset listbox. DataType: System.Collections.ArrayList
ICD9ToSNOMEDCTLookup	SNOMEDCTRemoteSession	BMX RemoteSession used to perform data calls to SNOMED CT Search (Terminology Search) RPMS area. DataType: IndianHealthService.BMXNet.RemoteSession

14.0 Accessibility Checklist

IHS Section 508 36 CFR Part §1194.21 Software Applications and Operating Systems Checklist

The BSTS package is not a software application that includes a user interface and therefore Section 508 compliancy checklist is not applicable.

Appendix A: Sample API Calls

A.1 $$SEARCH^BSTSAPI

The following example shows the only record returned of a Fully Specified Name lookup listing:

```
>S OUT="VAR",IN="CEREBRAL EDEMA^F"

>W $$SEARCH^BSTSAPI(OUT,IN)

2^
TEST4>ZW @OUT
VAR(1,"CHD",1,"CON")=""
VAR(1,"CHD",1,"DTS")=230760
VAR(1,"CHD",1,"TRM")="Cytotoxic cerebral edema (disorder)"
VAR(1,"CHD",1,"XADT")=""
VAR(1,"CHD",1,"XRDT")=""
VAR(1,"CHD",2,"CON")=""
VAR(1,"CHD",2,"DTS")=230762
VAR(1,"CHD",2,"TRM")="High altitude cerebral edema (disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=""
VAR(1,"CHD",3,"DTS")=230761
VAR(1,"CHD",3,"TRM")="Periventricular cerebrospinal fluid edema (disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=""
VAR(1,"CHD",4,"DTS")=230763
VAR(1,"CHD",4,"TRM")="Traumatic cerebral edema (disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=""
VAR(1,"CHD",5,"DTS")=230759
VAR(1,"CHD",5,"TRM")="Vasogenic cerebral edema (disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CON")=2032001
VAR(1,"DTS")=2032
VAR(1,"FSN","DSC")=749395013
VAR(1,"FSN","TRM")="Cerebral edema (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"ICD",1,"COD")=348.5
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ICD",1,"XADT")=3120301.07
VAR(1,"ICD",1,"XRDT")=3500101.19
VAR(1,"ISA",1,"CON")=118654009
VAR(1,"ISA",1,"DTS")=118654
VAR(1,"ISA",1,"TRM")="Disorder characterized by edema (disorder)"
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"ISA",2,"CON")=81308009
VAR(1,"ISA",2,"DTS")=81308
VAR(1,"ISA",2,"TRM")="Disorder of brain (disorder)"
VAR(1,"ISA",2,"XADT")=""
VAR(1,"ISA",2,"XRDT")=""
```

```
VAR(1,"PRB","DSC")=4508017
VAR(1,"PRB","TRM")="Cerebral edema"
VAR(1,"PRE","DSC")=4508017
VAR(1,"PRE","TRM")="Cerebral edema"
VAR(1,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"SUB",1,"SUB")="IHS Problem List"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SYN",1,"DSC")=4509013
VAR(1,"SYN",1,"TRM")="Intracranial swelling"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=480612016
VAR(1,"SYN",2,"TRM")="Cerebral oedema"
VAR(1,"SYN",2,"XADT")=3120301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101

>
```

The following example shows the only returned of a Fully Specified Name lookup listing, with the add/retire date information being omitted:

```
TEST4>S OUT="VAR",IN="CEREBRAL EDEMA^F^^^^^^1"

TEST4>W $$SEARCH^BSTSAPI(OUT,IN)
2^
TEST4>ZW @OUT
VAR(1,"CHD",1,"CON")=""
VAR(1,"CHD",1,"DTS")=230760
VAR(1,"CHD",1,"TRM")="Cytotoxic cerebral edema (disorder)"
VAR(1,"CHD",2,"CON")=""
VAR(1,"CHD",2,"DTS")=230762
VAR(1,"CHD",2,"TRM")="High altitude cerebral edema (disorder)"
VAR(1,"CHD",3,"CON")=""
VAR(1,"CHD",3,"DTS")=230761
VAR(1,"CHD",3,"TRM")="Periventricular cerebrospinal fluid edema (disorder)"
VAR(1,"CHD",4,"CON")=""
VAR(1,"CHD",4,"DTS")=230763
VAR(1,"CHD",4,"TRM")="Traumatic cerebral edema (disorder)"
VAR(1,"CHD",5,"CON")=""
VAR(1,"CHD",5,"DTS")=230759
VAR(1,"CHD",5,"TRM")="Vasogenic cerebral edema (disorder)"
VAR(1,"CON")=2032001
VAR(1,"DTS")=2032
VAR(1,"FSN","DSC")=749395013
VAR(1,"FSN","TRM")="Cerebral edema (disorder)"
VAR(1,"ICD",1,"COD")=348.5
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ISA",1,"CON")=118654009
VAR(1,"ISA",1,"DTS")=118654
VAR(1,"ISA",1,"TRM")="Disorder characterized by edema (disorder)"
VAR(1,"ISA",2,"CON")=81308009
VAR(1,"ISA",2,"DTS")=81308
VAR(1,"ISA",2,"TRM")="Disorder of brain (disorder)"
VAR(1,"PRB","DSC")=4508017
VAR(1,"PRB","TRM")="Cerebral edema"
VAR(1,"PRE","DSC")=4508017
```

```
VAR(1,"PRE","TRM")="Cerebral edema"
VAR(1,"SUB",1,"SUB")="IHS Problem List"
VAR(1,"SYN",1,"DSC")=4509013
VAR(1,"SYN",1,"TRM")="Intracranial swelling"
VAR(1,"SYN",2,"DSC")=480612016
VAR(1,"SYN",2,"TRM")="Cerebral oedema"

>
```

The following example shows the records returned of a Fully Specified Name lookup listing, with the add/retire date information being omitted and only the Synonyms requested:

```
>S OUT="VAR",IN="CHRONIC OTITIS EXTERNA^F^^^^^S^1"

>W $$SEARCH^BSTSAPI(OUT,IN)

2^
GOLD4>ZW VAR
VAR(1,"CON")=53295002
VAR(1,"DTS")=53295
VAR(1,"FSN","DSC")=791398013
VAR(1,"FSN","TRM")="Chronic otitis externa (disorder)"
VAR(1,"PRB","DSC")=88624014
VAR(1,"PRB","TRM")="Chronic otitis externa"
VAR(1,"SYN",1,"DSC")=88625010
VAR(1,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(2,"CON")=111898002
VAR(2,"DTS")=111898
VAR(2,"FSN","DSC")=634690013
VAR(2,"FSN","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(2,"PRB","DSC")=179051014
VAR(2,"PRB","TRM")="Chronic mycotic otitis externa"
VAR(2,"SYN",1,"DSC")=1219702011
VAR(2,"SYN",1,"TRM")="Chronic fungal otitis externa"
VAR(3,"CON")=232224009
VAR(3,"DTS")=232224
VAR(3,"FSN","DSC")=620261011
VAR(3,"FSN","TRM")="Chronic infective otitis externa (disorder)"
VAR(3,"PRB","DSC")=347942018
VAR(3,"PRB","TRM")="Chronic infective otitis externa"
VAR(4,"CON")=232236003
VAR(4,"DTS")=232236
VAR(4,"FSN","DSC")=620275016
VAR(4,"FSN","TRM")="Chronic non-infective otitis externa (disorder)"
VAR(4,"PRB","DSC")=347956016
VAR(4,"PRB","TRM")="Chronic non-infective otitis externa"

>
```

The following example shows only the first and last record (of the up to 25 records) returned of a Synonym lookup listing, with the add/retire date information being omitted:

```
>S OUT="VAR",IN="CHRONIC OTITIS EXTERNA^S^^^^^^1"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
>ZW @OUT
```

```
VAR(1,"CHD",1,"CON")=111898002
VAR(1,"CHD",1,"DTS")=111898
VAR(1,"CHD",1,"TRM")="Chronic mycotic otitis externa (disorder)"
VAR(1,"CHD",2,"CON")=232236003
VAR(1,"CHD",2,"DTS")=232236
VAR(1,"CHD",2,"TRM")="Chronic non-infective otitis externa (disorder)"
VAR(1,"CHD",3,"CON")=""
VAR(1,"CHD",3,"DTS")=232241
VAR(1,"CHD",3,"TRM")="Chronic traumatic otitis externa (disorder)"
VAR(1,"CHD",4,"CON")=""
VAR(1,"CHD",4,"DTS")=72898
VAR(1,"CHD",4,"TRM")="Elastotic nodules of antihelix (disorder)"
VAR(1,"CON")=53295002
VAR(1,"DTS")=53295
VAR(1,"FSN","DSC")=791398013
VAR(1,"FSN","TRM")="Chronic otitis externa (disorder)"
VAR(1,"ICD",1,"COD")=380.23
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ISA",1,"CON")=""
VAR(1,"ISA",1,"DTS")=128297
VAR(1,"ISA",1,"TRM")="Chronic disease of ear (disorder)"
VAR(1,"ISA",2,"CON")=""
VAR(1,"ISA",2,"DTS")=128294
VAR(1,"ISA",2,"TRM")="Chronic inflammatory disorder (disorder)"
VAR(1,"ISA",3,"CON")=3135009
VAR(1,"ISA",3,"DTS")=3135
VAR(1,"ISA",3,"TRM")="Otitis externa (disorder)"
VAR(1,"PRB","DSC")=88624014
VAR(1,"PRB","TRM")="Chronic otitis externa"
VAR(1,"PRE","DSC")=88624014
VAR(1,"PRE","TRM")="Chronic otitis externa"
VAR(1,"SUB",1,"SUB")="IHS Problem List"
VAR(1,"SYN",1,"DSC")=88625010
VAR(1,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(2,"CHD",1,"CON")=111898002
VAR(2,"CHD",1,"DTS")=111898
VAR(2,"CHD",1,"TRM")="Chronic mycotic otitis externa (disorder)"
VAR(2,"CHD",2,"CON")=232236003
VAR(2,"CHD",2,"DTS")=232236
VAR(2,"CHD",2,"TRM")="Chronic non-infective otitis externa (disorder)"
VAR(2,"CHD",3,"CON")=""
VAR(2,"CHD",3,"DTS")=232241
VAR(2,"CHD",3,"TRM")="Chronic traumatic otitis externa (disorder)"
VAR(2,"CHD",4,"CON")=""
VAR(2,"CHD",4,"DTS")=72898
VAR(2,"CHD",4,"TRM")="Elastotic nodules of antihelix (disorder)"
VAR(2,"CON")=53295002
VAR(2,"DTS")=53295
VAR(2,"FSN","DSC")=791398013
VAR(2,"FSN","TRM")="Chronic otitis externa (disorder)"
VAR(2,"ICD",1,"COD")=380.23
VAR(2,"ICD",1,"TYP")="ICD"
VAR(2,"ISA",1,"CON")=""
VAR(2,"ISA",1,"DTS")=128297
VAR(2,"ISA",1,"TRM")="Chronic disease of ear (disorder)"
VAR(2,"ISA",2,"CON")=""
VAR(2,"ISA",2,"DTS")=128294
VAR(2,"ISA",2,"TRM")="Chronic inflammatory disorder (disorder)"
VAR(2,"ISA",3,"CON")=3135009
VAR(2,"ISA",3,"DTS")=3135
VAR(2,"ISA",3,"TRM")="Otitis externa (disorder)"
```

```
VAR(2,"PRB","DSC")=88625010
VAR(2,"PRB","TRM")="Chronic otitis externa, NOS"
VAR(2,"PRE","DSC")=88624014
VAR(2,"PRE","TRM")="Chronic otitis externa"
VAR(2,"SUB",1,"SUB")="IHS Problem List"
VAR(2,"SYN",1,"DSC")=88625010
VAR(2,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(3,"CHD",1,"CON")=""
VAR(3,"CHD",1,"DTS")=194207
VAR(3,"CHD",1,"TRM")="Chronic otitis externa due to aspergillosis
(disorder)"
VAR(3,"CON")=111898002
VAR(3,"DTS")=111898
VAR(3,"FSN","DSC")=634690013
VAR(3,"FSN","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(3,"ICD",1,"COD")=380.15
VAR(3,"ICD",1,"TYP")="ICD"
VAR(3,"ISA",1,"CON")=""
VAR(3,"ISA",1,"DTS")=177010
VAR(3,"ISA",1,"TRM")="Chronic infectious disease (disorder)"
VAR(3,"ISA",2,"CON")=232224009
VAR(3,"ISA",2,"DTS")=232224
VAR(3,"ISA",2,"TRM")="Chronic infective otitis externa (disorder)"
VAR(3,"ISA",3,"CON")=53295002
VAR(3,"ISA",3,"DTS")=53295
VAR(3,"ISA",3,"TRM")="Chronic otitis externa (disorder)"
VAR(3,"ISA",4,"CON")=""
VAR(3,"ISA",4,"DTS")=53316
VAR(3,"ISA",4,"TRM")="Otomycosis (disorder)"
VAR(3,"PRB","DSC")=1219702011
VAR(3,"PRB","TRM")="Chronic fungal otitis externa"
VAR(3,"PRE","DSC")=179051014
VAR(3,"PRE","TRM")="Chronic mycotic otitis externa"
VAR(3,"SUB",1,"SUB")="IHS Problem List"
VAR(3,"SYN",1,"DSC")=1219702011
VAR(3,"SYN",1,"TRM")="Chronic fungal otitis externa"
VAR(4,"CHD",1,"CON")=""
VAR(4,"CHD",1,"DTS")=194207
VAR(4,"CHD",1,"TRM")="Chronic otitis externa due to aspergillosis
(disorder)"
VAR(4,"CON")=111898002
VAR(4,"DTS")=111898
VAR(4,"FSN","DSC")=634690013
VAR(4,"FSN","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(4,"ICD",1,"COD")=380.15
VAR(4,"ICD",1,"TYP")="ICD"
VAR(4,"ISA",1,"CON")=""
VAR(4,"ISA",1,"DTS")=177010
VAR(4,"ISA",1,"TRM")="Chronic infectious disease (disorder)"
VAR(4,"ISA",2,"CON")=232224009
VAR(4,"ISA",2,"DTS")=232224
VAR(4,"ISA",2,"TRM")="Chronic infective otitis externa (disorder)"
VAR(4,"ISA",3,"CON")=53295002
VAR(4,"ISA",3,"DTS")=53295
VAR(4,"ISA",3,"TRM")="Chronic otitis externa (disorder)"
VAR(4,"ISA",4,"CON")=""
VAR(4,"ISA",4,"DTS")=53316
VAR(4,"ISA",4,"TRM")="Otomycosis (disorder)"
VAR(4,"PRB","DSC")=179051014
VAR(4,"PRB","TRM")="Chronic mycotic otitis externa"
VAR(4,"PRE","DSC")=179051014
```

```
VAR(4,"PRE","TRM")="Chronic mycotic otitis externa"
VAR(4,"SUB",1,"SUB")="IHS Problem List"
VAR(4,"SYN",1,"DSC")=1219702011
VAR(4,"SYN",1,"TRM")="Chronic fungal otitis externa"
VAR(5,"CHD",1,"CON")=""
VAR(5,"CHD",1,"DTS")=232225
VAR(5,"CHD",1,"TRM")="Chronic bacterial otitis externa (disorder)"
VAR(5,"CHD",2,"CON")=111898002
VAR(5,"CHD",2,"DTS")=111898
VAR(5,"CHD",2,"TRM")="Chronic mycotic otitis externa (disorder)"
VAR(5,"CHD",3,"CON")=""
VAR(5,"CHD",3,"DTS")=194208
VAR(5,"CHD",3,"TRM")="Chronic otitis externa due to moniliasis (disorder)"
VAR(5,"CHD",4,"CON")=""
VAR(5,"CHD",4,"DTS")=232226
VAR(5,"CHD",4,"TRM")="Chronic viral otitis externa (disorder)"
VAR(5,"CON")=232224009
VAR(5,"DTS")=232224
VAR(5,"FSN","DSC")=620261011
VAR(5,"FSN","TRM")="Chronic infective otitis externa (disorder)"
VAR(5,"ICD",1,"COD")=380.16
VAR(5,"ICD",1,"TYP")="ICD"
VAR(5,"ISA",1,"CON")=86981007
VAR(5,"ISA",1,"DTS")=86981
VAR(5,"ISA",1,"TRM")="Infective otitis externa (disorder)"
VAR(5,"PRB","DSC")=347942018
VAR(5,"PRB","TRM")="Chronic infective otitis externa"
VAR(5,"PRE","DSC")=347942018
VAR(5,"PRE","TRM")="Chronic infective otitis externa"
VAR(5,"SUB",1,"SUB")="IHS Problem List"
VAR(6,"CHD",1,"CON")=""
VAR(6,"CHD",1,"DTS")=232240
VAR(6,"CHD",1,"TRM")="Chronic allergic otitis externa (disorder)"
VAR(6,"CHD",2,"CON")=""
VAR(6,"CHD",2,"DTS")=232239
VAR(6,"CHD",2,"TRM")="Chronic irritant otitis externa (disorder)"
VAR(6,"CHD",3,"CON")=""
VAR(6,"CHD",3,"DTS")=232237
VAR(6,"CHD",3,"TRM")="Chronic radiation otitis externa (disorder)"
VAR(6,"CHD",4,"CON")=""
VAR(6,"CHD",4,"DTS")=232243
VAR(6,"CHD",4,"TRM")="Seborrheic otitis externa (disorder)"
VAR(6,"CON")=232236003
VAR(6,"DTS")=232236
VAR(6,"FSN","DSC")=620275016
VAR(6,"FSN","TRM")="Chronic non-infective otitis externa (disorder)"
VAR(6,"ICD",1,"COD")=380.23
VAR(6,"ICD",1,"TYP")="ICD"
VAR(6,"ISA",1,"CON")=53295002
VAR(6,"ISA",1,"DTS")=53295
VAR(6,"ISA",1,"TRM")="Chronic otitis externa (disorder)"
VAR(6,"ISA",2,"CON")=""
VAR(6,"ISA",2,"DTS")=232231
VAR(6,"ISA",2,"TRM")="Non-infective otitis externa (disorder)"
VAR(6,"PRB","DSC")=347956016
VAR(6,"PRB","TRM")="Chronic non-infective otitis externa"
VAR(6,"PRE","DSC")=347956016
VAR(6,"PRE","TRM")="Chronic non-infective otitis externa"
VAR(6,"SUB",1,"SUB")="IHS Problem List"

>
```

The following example shows the records returned of a Synonym lookup listing, with the add/retire date information being omitted and the Synonym, Preferred, and ICD information getting returned:

```
>S OUT="VAR",IN="CHRONIC OTITIS EXTERNA^S^^^^^SPX^1"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
GOLD4>ZW @OUT
VAR(1,"CON")=53295002
VAR(1,"DTS")=53295
VAR(1,"FSN","DSC")=791398013
VAR(1,"FSN","TRM")="Chronic otitis externa (disorder)"
VAR(1,"ICD",1,"COD")=380.23
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"PRB","DSC")=88624014
VAR(1,"PRB","TRM")="Chronic otitis externa"
VAR(1,"PRE","DSC")=88624014
VAR(1,"PRE","TRM")="Chronic otitis externa"
VAR(1,"SYN",1,"DSC")=88625010
VAR(1,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(2,"CON")=53295002
VAR(2,"DTS")=53295
VAR(2,"FSN","DSC")=791398013
VAR(2,"FSN","TRM")="Chronic otitis externa (disorder)"
VAR(2,"ICD",1,"COD")=380.23
VAR(2,"ICD",1,"TYP")="ICD"
VAR(2,"PRB","DSC")=88625010
VAR(2,"PRB","TRM")="Chronic otitis externa, NOS"
VAR(2,"PRE","DSC")=88624014
VAR(2,"PRE","TRM")="Chronic otitis externa"
VAR(2,"SYN",1,"DSC")=88625010
VAR(2,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(3,"CON")=111898002
VAR(3,"DTS")=111898
VAR(3,"FSN","DSC")=634690013
VAR(3,"FSN","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(3,"ICD",1,"COD")=380.15
VAR(3,"ICD",1,"TYP")="ICD"
VAR(3,"PRB","DSC")=1219702011
VAR(3,"PRB","TRM")="Chronic fungal otitis externa"
VAR(3,"PRE","DSC")=179051014
VAR(3,"PRE","TRM")="Chronic mycotic otitis externa"
VAR(3,"SYN",1,"DSC")=1219702011
VAR(3,"SYN",1,"TRM")="Chronic fungal otitis externa"
VAR(4,"CON")=111898002
VAR(4,"DTS")=111898
VAR(4,"FSN","DSC")=634690013
VAR(4,"FSN","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(4,"ICD",1,"COD")=380.15
VAR(4,"ICD",1,"TYP")="ICD"
VAR(4,"PRB","DSC")=179051014
VAR(4,"PRB","TRM")="Chronic mycotic otitis externa"
VAR(4,"PRE","DSC")=179051014
VAR(4,"PRE","TRM")="Chronic mycotic otitis externa"
VAR(4,"SYN",1,"DSC")=1219702011
VAR(4,"SYN",1,"TRM")="Chronic fungal otitis externa"
VAR(5,"CON")=232224009
VAR(5,"DTS")=232224
VAR(5,"FSN","DSC")=620261011
VAR(5,"FSN","TRM")="Chronic infective otitis externa (disorder)"
```

```
VAR(5,"ICD",1,"COD")=380.16
VAR(5,"ICD",1,"TYP")="ICD"
VAR(5,"PRB","DSC")=347942018
VAR(5,"PRB","TRM")="Chronic infective otitis externa"
VAR(5,"PRE","DSC")=347942018
VAR(5,"PRE","TRM")="Chronic infective otitis externa"
VAR(6,"CON")=232236003
VAR(6,"DTS")=232236
VAR(6,"FSN","DSC")=620275016
VAR(6,"FSN","TRM")="Chronic non-infective otitis externa (disorder)"
VAR(6,"ICD",1,"COD")=380.23
VAR(6,"ICD",1,"TYP")="ICD"
VAR(6,"PRB","DSC")=347956016
VAR(6,"PRB","TRM")="Chronic non-infective otitis externa"
VAR(6,"PRE","DSC")=347956016
VAR(6,"PRE","TRM")="Chronic non-infective otitis externa"

>
```

The following example shows the records returned by a Synonym lookup listing where a local search was performed:

```
>S OUT="VAR",IN="CHRONIC OTITIS EXTERNA^S^^^^^^^^^1"

>W $$SEARCH^BSTSAPI(OUT,IN)

1
GOLD4>ZW VAR
VAR(1,"CHD",1,"CON")=111898002
VAR(1,"CHD",1,"DTS")=111898
VAR(1,"CHD",1,"TRM")="Chronic mycotic otitis externa (disorder)"
VAR(1,"CHD",1,"XADT")=""
VAR(1,"CHD",1,"XRDT")=""
VAR(1,"CHD",2,"CON")=232236003
VAR(1,"CHD",2,"DTS")=232236
VAR(1,"CHD",2,"TRM")="Chronic non-infective otitis externa (disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=""
VAR(1,"CHD",3,"DTS")=232241
VAR(1,"CHD",3,"TRM")="Chronic traumatic otitis externa (disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=""
VAR(1,"CHD",4,"DTS")=72898
VAR(1,"CHD",4,"TRM")="Elastotic nodules of antihelix (disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CON")=53295002
VAR(1,"DTS")=53295
VAR(1,"FSN","DSC")=791398013
VAR(1,"FSN","TRM")="Chronic otitis externa (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"ICD",1,"COD")=380.23
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ICD",1,"XADT")=3120301.07
VAR(1,"ICD",1,"XRDT")=3500101.19
VAR(1,"ISA",1,"CON")=""
VAR(1,"ISA",1,"DTS")=128297
```

```
VAR(1,"ISA",1,"TRM")="Chronic disease of ear (disorder)"
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"ISA",2,"CON")=""
VAR(1,"ISA",2,"DTS")=128294
VAR(1,"ISA",2,"TRM")="Chronic inflammatory disorder (disorder)"
VAR(1,"ISA",2,"XADT")=""
VAR(1,"ISA",2,"XRDT")=""
VAR(1,"ISA",3,"CON")=3135009
VAR(1,"ISA",3,"DTS")=3135
VAR(1,"ISA",3,"TRM")="Otitis externa (disorder)"
VAR(1,"ISA",3,"XADT")=""
VAR(1,"ISA",3,"XRDT")=""
VAR(1,"PRB","DSC")=791398013
VAR(1,"PRB","TRM")="Chronic otitis externa (disorder)"
VAR(1,"PRE","DSC")=88624014
VAR(1,"PRE","TRM")="Chronic otitis externa"
VAR(1,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"SUB",1,"SUB")="IHS Problem List"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SYN",1,"DSC")=88625010
VAR(1,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101
VAR(2,"CHD",1,"CON")=""
VAR(2,"CHD",1,"DTS")=232240
VAR(2,"CHD",1,"TRM")="Chronic allergic otitis externa (disorder)"
VAR(2,"CHD",1,"XADT")=""
VAR(2,"CHD",1,"XRDT")=""
VAR(2,"CHD",2,"CON")=""
VAR(2,"CHD",2,"DTS")=232239
VAR(2,"CHD",2,"TRM")="Chronic irritant otitis externa (disorder)"
VAR(2,"CHD",2,"XADT")=""
VAR(2,"CHD",2,"XRDT")=""
VAR(2,"CHD",3,"CON")=""
VAR(2,"CHD",3,"DTS")=232237
VAR(2,"CHD",3,"TRM")="Chronic radiation otitis externa (disorder)"
VAR(2,"CHD",3,"XADT")=""
VAR(2,"CHD",3,"XRDT")=""
VAR(2,"CHD",4,"CON")=""
VAR(2,"CHD",4,"DTS")=232243
VAR(2,"CHD",4,"TRM")="Seborrheic otitis externa (disorder)"
VAR(2,"CHD",4,"XADT")=""
VAR(2,"CHD",4,"XRDT")=""
VAR(2,"CON")=232236003
VAR(2,"DTS")=232236
VAR(2,"FSN","DSC")=620275016
VAR(2,"FSN","TRM")="Chronic non-infective otitis externa (disorder)"
VAR(2,"FSN","XADT")=3120301.07
VAR(2,"FSN","XRDT")=""
VAR(2,"ICD",1,"COD")=380.23
VAR(2,"ICD",1,"TYP")="ICD"
VAR(2,"ICD",1,"XADT")=3120301.07
VAR(2,"ICD",1,"XRDT")=3500101.19
VAR(2,"ISA",1,"CON")=53295002
VAR(2,"ISA",1,"DTS")=53295
VAR(2,"ISA",1,"TRM")="Chronic otitis externa (disorder)"
```

```
VAR(2,"ISA",1,"XADT")=""
VAR(2,"ISA",1,"XRDT")=""
VAR(2,"ISA",2,"CON")=""
VAR(2,"ISA",2,"DTS")=232231
VAR(2,"ISA",2,"TRM")="Non-infective otitis externa (disorder)"
VAR(2,"ISA",2,"XADT")=""
VAR(2,"ISA",2,"XRDT")=""
VAR(2,"PRB","DSC")=620275016
VAR(2,"PRB","TRM")="Chronic non-infective otitis externa (disorder)"
VAR(2,"PRE","DSC")=347956016
VAR(2,"PRE","TRM")="Chronic non-infective otitis externa"
VAR(2,"PRE","XADT")=3120301.07
VAR(2,"PRE","XRDT")=""
VAR(2,"SUB",1,"SUB")="IHS Problem List"
VAR(2,"SUB",1,"XADT")=""
VAR(2,"SUB",1,"XRDT")=""
VAR(2,"XADT")=3120301
VAR(2,"XRDT")=3500101
VAR(3,"CHD",1,"CON")=""
VAR(3,"CHD",1,"DTS")=232225
VAR(3,"CHD",1,"TRM")="Chronic bacterial otitis externa (disorder)"
VAR(3,"CHD",1,"XADT")=""
VAR(3,"CHD",1,"XRDT")=""
VAR(3,"CHD",2,"CON")=111898002
VAR(3,"CHD",2,"DTS")=111898
VAR(3,"CHD",2,"TRM")="Chronic mycotic otitis externa (disorder)"
VAR(3,"CHD",2,"XADT")=""
VAR(3,"CHD",2,"XRDT")=""
VAR(3,"CHD",3,"CON")=""
VAR(3,"CHD",3,"DTS")=194208
VAR(3,"CHD",3,"TRM")="Chronic otitis externa due to moniliasis (disorder)"
VAR(3,"CHD",3,"XADT")=""
VAR(3,"CHD",3,"XRDT")=""
VAR(3,"CHD",4,"CON")=""
VAR(3,"CHD",4,"DTS")=232226
VAR(3,"CHD",4,"TRM")="Chronic viral otitis externa (disorder)"
VAR(3,"CHD",4,"XADT")=""
VAR(3,"CHD",4,"XRDT")=""
VAR(3,"CON")=232224009
VAR(3,"DTS")=232224
VAR(3,"FSN","DSC")=620261011
VAR(3,"FSN","TRM")="Chronic infective otitis externa (disorder)"
VAR(3,"FSN","XADT")=3120301.07
VAR(3,"FSN","XRDT")=""
VAR(3,"ICD",1,"COD")=380.16
VAR(3,"ICD",1,"TYP")="ICD"
VAR(3,"ICD",1,"XADT")=3120301.07
VAR(3,"ICD",1,"XRDT")=3500101.19
VAR(3,"ISA",1,"CON")=86981007
VAR(3,"ISA",1,"DTS")=86981
VAR(3,"ISA",1,"TRM")="Infective otitis externa (disorder)"
VAR(3,"ISA",1,"XADT")=""
VAR(3,"ISA",1,"XRDT")=""
VAR(3,"PRB","DSC")=620261011
VAR(3,"PRB","TRM")="Chronic infective otitis externa (disorder)"
VAR(3,"PRE","DSC")=347942018
VAR(3,"PRE","TRM")="Chronic infective otitis externa"
VAR(3,"PRE","XADT")=3120301.07
VAR(3,"PRE","XRDT")=""
VAR(3,"SUB",1,"SUB")="IHS Problem List"
VAR(3,"SUB",1,"XADT")=""
```

```
VAR(3,"SUB",1,"XRDT")=""
VAR(3,"XADT")=3120301
VAR(3,"XRDT")=3500101
VAR(4,"CHD",1,"CON")=""
VAR(4,"CHD",1,"DTS")=194207
VAR(4,"CHD",1,"TRM")="Chronic otitis externa due to aspergillosis
(disorder)"
VAR(4,"CHD",1,"XADT")=""
VAR(4,"CHD",1,"XRDT")=""
VAR(4,"CON")=111898002
VAR(4,"DTS")=111898
VAR(4,"FSN","DSC")=634690013
VAR(4,"FSN","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(4,"FSN","XADT")=3120301.07
VAR(4,"FSN","XRDT")=""
VAR(4,"ICD",1,"COD")=380.15
VAR(4,"ICD",1,"TYP")="ICD"
VAR(4,"ICD",1,"XADT")=3120301.07
VAR(4,"ICD",1,"XRDT")=3500101.19
VAR(4,"ISA",1,"CON")=""
VAR(4,"ISA",1,"DTS")=177010
VAR(4,"ISA",1,"TRM")="Chronic infectious disease (disorder)"
VAR(4,"ISA",1,"XADT")=""
VAR(4,"ISA",1,"XRDT")=""
VAR(4,"ISA",2,"CON")=232224009
VAR(4,"ISA",2,"DTS")=232224
VAR(4,"ISA",2,"TRM")="Chronic infective otitis externa (disorder)"
VAR(4,"ISA",2,"XADT")=""
VAR(4,"ISA",2,"XRDT")=""
VAR(4,"ISA",3,"CON")=53295002
VAR(4,"ISA",3,"DTS")=53295
VAR(4,"ISA",3,"TRM")="Chronic otitis externa (disorder)"
VAR(4,"ISA",3,"XADT")=""
VAR(4,"ISA",3,"XRDT")=""
VAR(4,"ISA",4,"CON")=""
VAR(4,"ISA",4,"DTS")=53316
VAR(4,"ISA",4,"TRM")="Otomycosis (disorder)"
VAR(4,"ISA",4,"XADT")=""
VAR(4,"ISA",4,"XRDT")=""
VAR(4,"PRB","DSC")=634690013
VAR(4,"PRB","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(4,"PRE","DSC")=179051014
VAR(4,"PRE","TRM")="Chronic mycotic otitis externa"
VAR(4,"PRE","XADT")=3120301.07
VAR(4,"PRE","XRDT")=""
VAR(4,"SUB",1,"SUB")="IHS Problem List"
VAR(4,"SUB",1,"XADT")=""
VAR(4,"SUB",1,"XRDT")=""
VAR(4,"SYN",1,"DSC")=1219702011
VAR(4,"SYN",1,"TRM")="Chronic fungal otitis externa"
VAR(4,"SYN",1,"XADT")=3120301.07
VAR(4,"SYN",1,"XRDT")=""
VAR(4,"XADT")=3120301
VAR(4,"XRDT")=3500101

>
```

The following example shows the records returned of a search to look in a specified subset:

```
>S OUT="VAR",IN="HEART^F^30^SRCH Family History^^^^1"

>W $$SEARCH^BSTSAPI(OUT,IN)

2^
>ZW @OUT
VAR(1,"CHD",1,"CON")=433305001
VAR(1,"CHD",1,"DTS")=433305
VAR(1,"CHD",1,"TRM")="Family history of congestive heart failure
(situation)"
VAR(1,"CON")=429959009
VAR(1,"DTS")=429959
VAR(1,"FSN","DSC")=2708296012
VAR(1,"FSN","TRM")="Family history of heart failure (situation)"
VAR(1,"ICD",1,"COD")="V17.3"
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ISA",1,"CON")=275120007
VAR(1,"ISA",1,"DTS")=275120
VAR(1,"ISA",1,"TRM")="Family history: Cardiac disorder (situation)"
VAR(1,"PRB","DSC")=2764081016
VAR(1,"PRB","TRM")="Family history of heart failure"
VAR(1,"PRE","DSC")=2764081016
VAR(1,"PRE","TRM")="Family history of heart failure"
VAR(1,"SUB",1,"SUB")="SRCH FAMILY HISTORY"
VAR(2,"CHD",1,"CON")=429958001
VAR(2,"CHD",1,"DTS")=429958
VAR(2,"CHD",1,"TRM")="Family history of conduction disorder of the heart
(situation)"
VAR(2,"CHD",2,"CON")=430091005
VAR(2,"CHD",2,"DTS")=430091
VAR(2,"CHD",2,"TRM")="Family history of coronary arteriosclerosis
(situation)"
VAR(2,"CHD",3,"CON")=429978009
VAR(2,"CHD",3,"DTS")=429978
VAR(2,"CHD",3,"TRM")="Family history of endocarditis (situation)"
VAR(2,"CHD",4,"CON")=429959009
VAR(2,"CHD",4,"DTS")=429959
VAR(2,"CHD",4,"TRM")="Family history of heart failure (situation)"
VAR(2,"CHD",5,"CON")=297242006
VAR(2,"CHD",5,"DTS")=297242
VAR(2,"CHD",5,"TRM")="Family history of ischemic heart disease (situation)"
VAR(2,"CHD",6,"CON")=430730004
VAR(2,"CHD",6,"DTS")=430730
VAR(2,"CHD",6,"TRM")="Family history of mitral valve regurgitation
(situation)"
VAR(2,"CHD",7,"CON")=439154009
VAR(2,"CHD",7,"DTS")=439154
VAR(2,"CHD",7,"TRM")="Family history of myocarditis (situation)"
VAR(2,"CHD",8,"CON")=429952000
VAR(2,"CHD",8,"DTS")=429952
VAR(2,"CHD",8,"TRM")="Family history of stenosis of aortic valve
(situation)"
VAR(2,"CHD",9,"CON")=390915000
VAR(2,"CHD",9,"DTS")=390915
VAR(2,"CHD",9,"TRM")="Family history: Cardiomyopathy (situation)"
VAR(2,"CHD",10,"CON")=160364005
VAR(2,"CHD",10,"DTS")=160364
```

```
VAR(2,"CHD",10,"TRM")="Family history: Congenital heart disease
(situation)"
VAR(2,"CHD",11,"CON")=275124003
VAR(2,"CHD",11,"DTS")=275124
VAR(2,"CHD",11,"TRM")="Family history: Coronary thrombosis (situation)"
VAR(2,"CON")=275120007
VAR(2,"DTS")=275120
VAR(2,"FSN","DSC")=2610340013
VAR(2,"FSN","TRM")="Family history: Cardiac disorder (situation)"
VAR(2,"ICD",1,"COD")="V17.49"
VAR(2,"ICD",1,"TYP")="ICD"
VAR(2,"ISA",1,"CON")=266894000
VAR(2,"ISA",1,"DTS")=266894
VAR(2,"ISA",1,"TRM")="Family history: Cardiovascular disease (situation)"
VAR(2,"PRB","DSC")=411052015
VAR(2,"PRB","TRM")="FH: Cardiac disorder"
VAR(2,"PRE","DSC")=411052015
VAR(2,"PRE","TRM")="FH: Cardiac disorder"
VAR(2,"SUB",1,"SUB")="SRCH FAMILY HISTORY"
VAR(2,"SUB",2,"SUB")="IHS Problem List"
VAR(2,"SYN",1,"DSC")=667954016
VAR(2,"SYN",1,"TRM")="Family history: Cardiac disorder (context-dependent
category)"
VAR(2,"SYN",2,"DSC")=1495319014
VAR(2,"SYN",2,"TRM")="FH: Heart disorder"
VAR(2,"SYN",3,"DSC")=1495320015
VAR(2,"SYN",3,"TRM")="FH: cardiac disorder"
VAR(2,"SYN",4,"DSC")=1495321016
VAR(2,"SYN",4,"TRM")="FH: heart disorder"
VAR(2,"SYN",5,"DSC")=2669864012
VAR(2,"SYN",5,"TRM")="Family history: Cardiac disorder"
VAR(3,"CHD",1,"CON")=417648007
VAR(3,"CHD",1,"DTS")=417648
VAR(3,"CHD",1,"TRM")="Family history of pulmonary infundibular stenosis
(situation)"
VAR(3,"CON")=160364005
VAR(3,"DTS")=160364
VAR(3,"FSN","DSC")=2607149013
VAR(3,"FSN","TRM")="Family history: Congenital heart disease (situation)"
VAR(3,"ICD",1,"COD")="V17.49"
VAR(3,"ICD",1,"TYP")="ICD"
VAR(3,"ISA",1,"CON")=266908007
VAR(3,"ISA",1,"DTS")=266908
VAR(3,"ISA",1,"TRM")="Family history of congenital anomaly of
cardiovascular system (situation)"
VAR(3,"ISA",2,"CON")=275120007
VAR(3,"ISA",2,"DTS")=275120
VAR(3,"ISA",2,"TRM")="Family history: Cardiac disorder (situation)"
VAR(3,"PRB","DSC")=249974019
VAR(3,"PRB","TRM")="FH: Congenital heart disease"
VAR(3,"PRE","DSC")=249974019
VAR(3,"PRE","TRM")="FH: Congenital heart disease"
VAR(3,"SUB",1,"SUB")="SRCH FAMILY HISTORY"
VAR(3,"SUB",2,"SUB")="IHS Problem List"
VAR(3,"SYN",1,"DSC")=249973013
VAR(3,"SYN",1,"TRM")="FH: Congen heart disease"
VAR(3,"SYN",2,"DSC")=541268018
VAR(3,"SYN",2,"TRM")="Family history: Congenital heart disease (context-
dependent category)"
VAR(3,"SYN",3,"DSC")=2666595013
VAR(3,"SYN",3,"TRM")="Family history: Congenital heart disease"
```

```
VAR(4,"CHD",1,"CON")=275121006
VAR(4,"CHD",1,"DTS")=275121
VAR(4,"CHD",1,"TRM")="Family history: Angina (situation)"
VAR(4,"CHD",2,"CON")=266896003
VAR(4,"CHD",2,"DTS")=266896
VAR(4,"CHD",2,"TRM")="Family history: Ischemic heart disease at greater
than 60 years (situation)"
VAR(4,"CHD",3,"CON")=266895004
VAR(4,"CHD",3,"DTS")=266895
VAR(4,"CHD",3,"TRM")="Family history: Ischemic heart disease at less than
60 years (situation)"
VAR(4,"CHD",4,"CON")=266897007
VAR(4,"CHD",4,"DTS")=266897
VAR(4,"CHD",4,"TRM")="Family history: Myocardial infarction (situation)"
VAR(4,"CON")=297242006
VAR(4,"DTS")=297242
VAR(4,"FSN","DSC")=2610786013
VAR(4,"FSN","TRM")="Family history of ischemic heart disease (situation)"
VAR(4,"ICD",1,"COD")="V17.3"
VAR(4,"ICD",1,"TYP")="ICD"
VAR(4,"ISA",1,"CON")=275120007
VAR(4,"ISA",1,"DTS")=275120
VAR(4,"ISA",1,"TRM")="Family history: Cardiac disorder (situation)"
VAR(4,"PRB","DSC")=437727012
VAR(4,"PRB","TRM")="Family history of ischemic heart disease"
VAR(4,"PRE","DSC")=437727012
VAR(4,"PRE","TRM")="Family history of ischemic heart disease"
VAR(4,"SUB",1,"SUB")="SRCH FAMILY HISTORY"
VAR(4,"SUB",2,"SUB")="IHS Problem List"
VAR(4,"SYN",1,"DSC")=437728019
VAR(4,"SYN",1,"TRM")="Family history of ischaemic heart disease"
VAR(4,"SYN",2,"DSC")=437729010
VAR(4,"SYN",2,"TRM")="FH: Ischaemic heart disease"
VAR(4,"SYN",3,"DSC")=437730017
VAR(4,"SYN",3,"TRM")="FH: Ischemic heart disease"
VAR(4,"SYN",4,"DSC")=692552012
VAR(4,"SYN",4,"TRM")="Family history of ischemic heart disease (context-
dependent category)"
VAR(5,"CON")=433305001
VAR(5,"DTS")=433305
VAR(5,"FSN","DSC")=2708363012
VAR(5,"FSN","TRM")="Family history of congestive heart failure (situation)"
VAR(5,"ICD",1,"COD")="V19.8"
VAR(5,"ICD",1,"TYP")="ICD"
VAR(5,"ISA",1,"CON")=429959009
VAR(5,"ISA",1,"DTS")=429959
VAR(5,"ISA",1,"TRM")="Family history of heart failure (situation)"
VAR(5,"PRB","DSC")=2764062012
VAR(5,"PRB","TRM")="Family history of congestive heart failure"
VAR(5,"PRE","DSC")=2764062012
VAR(5,"PRE","TRM")="Family history of congestive heart failure"
VAR(5,"SUB",1,"SUB")="SRCH FAMILY HISTORY"
VAR(6,"CON")=134439009
VAR(6,"DTS")=134439
VAR(6,"FSN","DSC")=2606613016
VAR(6,"FSN","TRM")="Family history: premature coronary heart disease
(situation)"
VAR(6,"ICD",1,"COD")="V17.1"
VAR(6,"ICD",1,"TYP")="ICD"
VAR(6,"ISA",1,"CON")=266894000
VAR(6,"ISA",1,"DTS")=266894
```

```
VAR(6,"ISA",1,"TRM")="Family history: Cardiovascular disease (situation)"
VAR(6,"PRB","DSC")=216245011
VAR(6,"PRB","TRM")="FH: premature coronary heart disease"
VAR(6,"PRE","DSC")=216245011
VAR(6,"PRE","TRM")="FH: premature coronary heart disease"
VAR(6,"SUB",1,"SUB")="SRCH FAMILY HISTORY"
VAR(6,"SUB",2,"SUB")="IHS Problem List"
VAR(6,"SYN",1,"DSC")=514018012
VAR(6,"SYN",1,"TRM")="Family history: premature coronary heart disease
(context-dependent category)"
VAR(6,"SYN",2,"DSC")=2664552011
VAR(6,"SYN",2,"TRM")="Family history: premature coronary heart disease"
VAR(7,"CHD",1,"CON")=433276002
VAR(7,"CHD",1,"DTS")=433276
VAR(7,"CHD",1,"TRM")="Family history of atrial fibrillation (situation)"
VAR(7,"CHD",2,"CON")=433449000
VAR(7,"CHD",2,"DTS")=433449
VAR(7,"CHD",2,"TRM")="Family history of ventricular premature beats
(situation)"
VAR(7,"CON")=429958001
VAR(7,"DTS")=429958
VAR(7,"FSN","DSC")=2708295011
VAR(7,"FSN","TRM")="Family history of conduction disorder of the heart
(situation)"
VAR(7,"ICD",1,"COD")="V17.49"
VAR(7,"ICD",1,"TYP")="ICD"
VAR(7,"ISA",1,"CON")=275120007
VAR(7,"ISA",1,"DTS")=275120
VAR(7,"ISA",1,"TRM")="Family history: Cardiac disorder (situation)"
VAR(7,"PRB","DSC")=2764080015
VAR(7,"PRB","TRM")="Family history of conduction disorder of the heart"
VAR(7,"PRE","DSC")=2764080015
VAR(7,"PRE","TRM")="Family history of conduction disorder of the heart"
VAR(7,"SUB",1,"SUB")="SRCH FAMILY HISTORY"
VAR(7,"SYN",1,"DSC")=2764079018
VAR(7,"SYN",1,"TRM")="Family history of cardiac arrhythmia"
VAR(8,"CON")=266895004
VAR(8,"DTS")=266895
VAR(8,"FSN","DSC")=2610063010
VAR(8,"FSN","TRM")="Family history: Ischemic heart disease at less than 60
years (situation)"
VAR(8,"ICD",1,"COD")="V17.3"
VAR(8,"ICD",1,"TYP")="ICD"
VAR(8,"ISA",1,"CON")=297242006
VAR(8,"ISA",1,"DTS")=297242
VAR(8,"ISA",1,"TRM")="Family history of ischemic heart disease (situation)"
VAR(8,"PRB","DSC")=397696015
VAR(8,"PRB","TRM")="FH: Ischemic heart disease at less than 60 years"
VAR(8,"PRE","DSC")=397696015
VAR(8,"PRE","TRM")="FH: Ischemic heart disease at less than 60 years"
VAR(8,"SUB",1,"SUB")="SRCH FAMILY HISTORY"
VAR(8,"SYN",1,"DSC")=397694017
VAR(8,"SYN",1,"TRM")="FH: Ischaemic heart dis. <60"
VAR(8,"SYN",2,"DSC")=397695016
VAR(8,"SYN",2,"TRM")="FH: Ischaemic heart disease at less than 60 years"
VAR(8,"SYN",3,"DSC")=397697012
VAR(8,"SYN",3,"TRM")="FH: Ischemic heart dis. <60"
VAR(8,"SYN",4,"DSC")=659444018
VAR(8,"SYN",4,"TRM")="Family history: Ischemic heart disease at less than
60 years (context-dependent category)"
VAR(8,"SYN",5,"DSC")=2669637014
```

```
VAR(8,"SYN",5,"TRM")="Family history: Ischemic heart disease at less than
60 years"
VAR(8,"SYN",6,"DSC")=2838291017
VAR(8,"SYN",6,"TRM")="Family history: Ischaemic heart disease at less than
60 years"
VAR(9,"CON")=266896003
VAR(9,"DTS")=266896
VAR(9,"FSN","DSC")=2610064016
VAR(9,"FSN","TRM")="Family history: Ischemic heart disease at greater than
60 years (situation)"
VAR(9,"ICD",1,"COD")="V17.3"
VAR(9,"ICD",1,"TYP")="ICD"
VAR(9,"ISA",1,"CON")=297242006
VAR(9,"ISA",1,"DTS")=297242
VAR(9,"ISA",1,"TRM")="Family history of ischemic heart disease (situation)"
VAR(9,"PRB","DSC")=397698019
VAR(9,"PRB","TRM")="FH: Ischemic heart disease at greater than 60 years"
VAR(9,"PRE","DSC")=397698019
VAR(9,"PRE","TRM")="FH: Ischemic heart disease at greater than 60 years"
VAR(9,"SUB",1,"SUB")="SRCH FAMILY HISTORY"
VAR(9,"SYN",1,"DSC")=397699010
VAR(9,"SYN",1,"TRM")="FH: Ischaemic heart disease at greater than 60 years"
VAR(9,"SYN",2,"DSC")=659445017
VAR(9,"SYN",2,"TRM")="Family history: Ischemic heart disease at greater
than 60 years (context-dependent category)"
VAR(9,"SYN",3,"DSC")=2669638016
VAR(9,"SYN",3,"TRM")="Family history: Ischemic heart disease at greater
than 60 years"
VAR(9,"SYN",4,"DSC")=2838827016
VAR(9,"SYN",4,"TRM")="Family history: Ischaemic heart disease at greater
than 60 years"

>
```

The follow example shows how to utilize the parameter to control the maximum results to return. In this case ‘4’ results were asked for. Just Synonym/Preferred information is getting returned:

```
>S OUT="VAR",IN="EDEMA^S^^^^4^SP^1"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1,"CON")=6141006
VAR(1,"DTS")=6141
VAR(1,"FSN","DSC")=800470019
VAR(1,"FSN","TRM")="Retinal edema (disorder)"
VAR(1,"PRB","DSC")=11201014
VAR(1,"PRB","TRM")="Retinal edema"
VAR(1,"PRE","DSC")=11201014
VAR(1,"PRE","TRM")="Retinal edema"
VAR(1,"SYN",1,"DSC")=11202019
VAR(1,"SYN",1,"TRM")="Retinal edema, NOS"
VAR(1,"SYN",2,"DSC")=499004019
VAR(1,"SYN",2,"TRM")="Retinal oedema"
VAR(2,"CON")=2032001
VAR(2,"DTS")=2032
VAR(2,"FSN","DSC")=749395013
VAR(2,"FSN","TRM")="Cerebral edema (disorder)"
VAR(2,"PRB","DSC")=4508017
```

```
VAR(2,"PRB","TRM")="Cerebral edema"
VAR(2,"PRE","DSC")=4508017
VAR(2,"PRE","TRM")="Cerebral edema"
VAR(2,"SYN",1,"DSC")=4509013
VAR(2,"SYN",1,"TRM")="Intracranial swelling"
VAR(2,"SYN",2,"DSC")=480612016
VAR(2,"SYN",2,"TRM")="Cerebral oedema"
VAR(3,"CON")=6141006
VAR(3,"DTS")=6141
VAR(3,"FSN","DSC")=800470019
VAR(3,"FSN","TRM")="Retinal edema (disorder)"
VAR(3,"PRB","DSC")=11202019
VAR(3,"PRB","TRM")="Retinal edema, NOS"
VAR(3,"PRE","DSC")=11201014
VAR(3,"PRE","TRM")="Retinal edema"
VAR(3,"SYN",1,"DSC")=11202019
VAR(3,"SYN",1,"TRM")="Retinal edema, NOS"
VAR(3,"SYN",2,"DSC")=499004019
VAR(3,"SYN",2,"TRM")="Retinal oedema"
VAR(4,"CON")=1794009
VAR(4,"DTS")=1794
VAR(4,"FSN","DSC")=745301019
VAR(4,"FSN","TRM")="Idiopathic corneal edema (disorder)"
VAR(4,"PRB","DSC")=4103017
VAR(4,"PRB","TRM")="Idiopathic corneal edema"
VAR(4,"PRE","DSC")=4103017
VAR(4,"PRE","TRM")="Idiopathic corneal edema"
VAR(4,"SYN",1,"DSC")=478451011
VAR(4,"SYN",1,"TRM")="Idiopathic corneal oedema"

>
```

The following examples show how the Batch parameters can be utilized to return partial search listings.

The first call performs a search which will return up to four records. In this case two terms will be returned, starting with the first term:

```
>S OUT="VAR",IN="EDEMA^S^^^^4^SP^1^1^2"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
GOLD4>ZW @OUT
VAR(1,"CON")=6141006
VAR(1,"DTS")=6141
VAR(1,"FSN","DSC")=800470019
VAR(1,"FSN","TRM")="Retinal edema (disorder)"
VAR(1,"PRB","DSC")=11201014
VAR(1,"PRB","TRM")="Retinal edema"
VAR(1,"PRE","DSC")=11201014
VAR(1,"PRE","TRM")="Retinal edema"
VAR(1,"SYN",1,"DSC")=11202019
VAR(1,"SYN",1,"TRM")="Retinal edema, NOS"
VAR(1,"SYN",2,"DSC")=499004019
VAR(1,"SYN",2,"TRM")="Retinal oedema"
VAR(2,"CON")=2032001
VAR(2,"DTS")=2032
VAR(2,"FSN","DSC")=749395013
VAR(2,"FSN","TRM")="Cerebral edema (disorder)"
VAR(2,"PRB","DSC")=4508017
```

```
VAR(2,"PRB","TRM")="Cerebral edema"
VAR(2,"PRE","DSC")=4508017
VAR(2,"PRE","TRM")="Cerebral edema"
VAR(2,"SYN",1,"DSC")=4509013
VAR(2,"SYN",1,"TRM")="Intracranial swelling"
VAR(2,"SYN",2,"DSC")=480612016
VAR(2,"SYN",2,"TRM")="Cerebral oedema"

>
```

The next call performs a search which will return up to four records. In this case two terms will be returned, starting with the third term:

```
>S OUT="VAR",IN="EDEMA^S^^^^4^SP^1^3^2"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
GOLD4>ZW @OUT
VAR(1,"CON")=6141006
VAR(1,"DTS")=6141
VAR(1,"FSN","DSC")=800470019
VAR(1,"FSN","TRM")="Retinal edema (disorder)"
VAR(1,"PRB","DSC")=11202019
VAR(1,"PRB","TRM")="Retinal edema, NOS"
VAR(1,"PRE","DSC")=11201014
VAR(1,"PRE","TRM")="Retinal edema"
VAR(1,"SYN",1,"DSC")=11202019
VAR(1,"SYN",1,"TRM")="Retinal edema, NOS"
VAR(1,"SYN",2,"DSC")=499004019
VAR(1,"SYN",2,"TRM")="Retinal oedema"
VAR(2,"CON")=1794009
VAR(2,"DTS")=1794
VAR(2,"FSN","DSC")=745301019
VAR(2,"FSN","TRM")="Idiopathic corneal edema (disorder)"
VAR(2,"PRB","DSC")=4103017
VAR(2,"PRB","TRM")="Idiopathic corneal edema"
VAR(2,"PRE","DSC")=4103017
VAR(2,"PRE","TRM")="Idiopathic corneal edema"
VAR(2,"SYN",1,"DSC")=478451011
VAR(2,"SYN",1,"TRM")="Idiopathic corneal oedema"

>
```

The following example shows the only the first and last record (of the up to 25 records) returned of a RxNorm codeset lookup:

```
>S OUT="VAR",IN="ACACIA^S^1552"

>W $$SEARCH^BSTSAPI(OUT,IN)

2^
TEST4>ZW @OUT
VAR(1,"CON")=851732
VAR(1,"DTS")=11328554
VAR(1,"FSN","DSC")=2973307
VAR(1,"FSN","TRM")="Acacia pollen extract"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"PRB","DSC")=2973307
```

```
VAR(1,"PRB","TRM")="Acacia pollen extract"
VAR(1,"PRE","DSC")=2973307
VAR(1,"PRE","TRM")="Acacia pollen extract"
VAR(1,"PRE","XADT")=""
VAR(1,"PRE","XRDT")=""
VAR(1,"XADT")=""
VAR(1,"XRDT")=""

...

VAR(25,"CON")=895255
VAR(25,"DTS")=11356237
VAR(25,"FSN","DSC")=3085613
VAR(25,"FSN","TRM")="Acacia longifolia pollen extract 10000 UNT/ML
Injectable Solution"
VAR(25,"FSN","XADT")=""
VAR(25,"FSN","XRDT")=""
VAR(25,"PRB","DSC")=3085613
VAR(25,"PRB","TRM")="Acacia longifolia pollen extract 10000 UNT/ML
Injectable Solution"
VAR(25,"PRE","DSC")=3085613
VAR(25,"PRE","TRM")="Acacia longifolia pollen extract 10000 UNT/ML
Injectable Solution"
VAR(25,"PRE","XADT")=""
VAR(25,"PRE","XRDT")=""
VAR(25,"SYN",1,"DSC")=3049177
VAR(25,"SYN",1,"TRM")="Sydney golden wattle pollen extract 10000 UNT/ML
Injectable Solution"
VAR(25,"SYN",1,"XADT")=""
VAR(25,"SYN",1,"XRDT")=""
VAR(25,"XADT")=""
VAR(25,"XRDT")=""

>
```

The following example shows the only the first and last record (of the up to 10 records) returned of a UNII codeset lookup:

```
>S OUT="VAR",IN="ACACIA^S^5180^^^10"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1,"CON")="24SO2J296O"
VAR(1,"DTS")=8773
VAR(1,"FSN","DSC")="24SO2J296O.8773"
VAR(1,"FSN","TRM")="ACACIA LONGIFOLIA POLLEN"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"PRB","DSC")="24SO2J296O.71552"
VAR(1,"PRB","TRM")="POLLENS - TREES, ACACIA ACACIA LONGIFOLIA"
VAR(1,"SYN",1,"DSC")="24SO2J296O.8772"
VAR(1,"SYN",1,"TRM")="ACACIA LATIFOLIA POLLEN"
VAR(1,"SYN",1,"XADT")=""
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")="24SO2J296O.8774"
VAR(1,"SYN",2,"TRM")="SYDNEY GOLDEN WATTLE POLLEN"
VAR(1,"SYN",2,"XADT")=""
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"SYN",3,"DSC")="24SO2J296O.8775"
```

```
VAR(1,"SYN",3,"TRM")="WESTERN YARROW POLLEN"
VAR(1,"SYN",3,"XADT")=""
VAR(1,"SYN",3,"XRDT")=""
VAR(1,"SYN",4,"DSC")="24SO2J296O.71552"
VAR(1,"SYN",4,"TRM")="POLLENS - TREES, ACACIA ACACIA LONGIFOLIA"
VAR(1,"SYN",4,"XADT")=""
VAR(1,"SYN",4,"XRDT")=""
VAR(1,"SYN",5,"DSC")="24SO2J296O.87209"
VAR(1,"SYN",5,"TRM")="ACACIA LONGIFOLIA POLLEN EXTRACT"
VAR(1,"SYN",5,"XADT")=""
VAR(1,"SYN",5,"XRDT")=""
VAR(1,"SYN",6,"DSC")="24SO2J296O.165113"
VAR(1,"SYN",6,"TRM")="SYDNEY GOLDEN WATTLE POLLEN EXTRACT"
VAR(1,"SYN",6,"XADT")=""
VAR(1,"SYN",6,"XRDT")=""
VAR(1,"SYN",7,"DSC")="24SO2J296O.295786"
VAR(1,"SYN",7,"TRM")="ALLERGENIC EXTRACT- ACACIA ACACIA TONGIFOLIA"
VAR(1,"SYN",7,"XADT")=""
VAR(1,"SYN",7,"XRDT")=""
VAR(1,"SYN",8,"DSC")="24SO2J296O.295787"
VAR(1,"SYN",8,"TRM")="ACACIA LONGIFOLIA POLLEN [WHO-DD]"
VAR(1,"SYN",8,"XADT")=""
VAR(1,"SYN",8,"XRDT")=""
VAR(1,"XADT")=""
VAR(1,"XRDT")=""

...

VAR(10,"CON")="5C5403N26O"
VAR(10,"DTS")=57
VAR(10,"FSN","DSC")="5C5403N26O.57"
VAR(10,"FSN","TRM")="ACACIA"
VAR(10,"FSN","XADT")=""
VAR(10,"FSN","XRDT")=""
VAR(10,"PRB","DSC")="5C5403N26O.8755"
VAR(10,"PRB","TRM")="ACACIA GUM"
VAR(10,"SYN",1,"DSC")="5C5403N26O.8755"
VAR(10,"SYN",1,"TRM")="ACACIA GUM"
VAR(10,"SYN",1,"XADT")=""
VAR(10,"SYN",1,"XRDT")=""
VAR(10,"SYN",2,"DSC")="5C5403N26O.8756"
VAR(10,"SYN",2,"TRM")="ACACIA SENEGAL RESIN"
VAR(10,"SYN",2,"XADT")=""
VAR(10,"SYN",2,"XRDT")=""
VAR(10,"SYN",3,"DSC")="5C5403N26O.8757"
VAR(10,"SYN",3,"TRM")="ACACIA VEREK RESIN"
VAR(10,"SYN",3,"XADT")=""
VAR(10,"SYN",3,"XRDT")=""
VAR(10,"SYN",4,"DSC")="5C5403N26O.8758"
VAR(10,"SYN",4,"TRM")="GUM ACACIA"
VAR(10,"SYN",4,"XADT")=""
VAR(10,"SYN",4,"XRDT")=""
VAR(10,"SYN",5,"DSC")="5C5403N26O.8759"
VAR(10,"SYN",5,"TRM")="GUM ARABIC"
VAR(10,"SYN",5,"XADT")=""
VAR(10,"SYN",5,"XRDT")=""
VAR(10,"SYN",6,"DSC")="5C5403N26O.21188"
VAR(10,"SYN",6,"TRM")="ACACIA ARABICA"
VAR(10,"SYN",6,"XADT")=""
VAR(10,"SYN",6,"XRDT")=""
VAR(10,"SYN",7,"DSC")="5C5403N26O.21189"
```

```
VAR(10,"SYN",7,"TRM")="ACACIA CIRCUMMARGINATA RESIN"
VAR(10,"SYN",7,"XADT")=""
VAR(10,"SYN",7,"XRDT")=""
VAR(10,"SYN",8,"DSC")="5C5403N26O.21190"
VAR(10,"SYN",8,"TRM")="ACACIA CUFODONTII RESIN"
VAR(10,"SYN",8,"XADT")=""
VAR(10,"SYN",8,"XRDT")=""
VAR(10,"SYN",9,"DSC")="5C5403N26O.21191"
VAR(10,"SYN",9,"TRM")="ACACIA MUCILAGE"
VAR(10,"SYN",9,"XADT")=""
VAR(10,"SYN",9,"XRDT")=""
VAR(10,"SYN",10,"DSC")="5C5403N26O.21192"
VAR(10,"SYN",10,"TRM")="ACACIA OXYOSPRION RESIN"
VAR(10,"SYN",10,"XADT")=""
VAR(10,"SYN",10,"XRDT")=""
VAR(10,"SYN",11,"DSC")="5C5403N26O.21193"
VAR(10,"SYN",11,"TRM")="ACACIA RUPESTRIS RESIN"
VAR(10,"SYN",11,"XADT")=""
VAR(10,"SYN",11,"XRDT")=""
VAR(10,"SYN",12,"DSC")="5C5403N26O.21194"
VAR(10,"SYN",12,"TRM")="ACACIA SPINOSA RESIN"
VAR(10,"SYN",12,"XADT")=""
VAR(10,"SYN",12,"XRDT")=""
VAR(10,"SYN",13,"DSC")="5C5403N26O.21195"
VAR(10,"SYN",13,"TRM")="ACACIA VOLKII RESIN"
VAR(10,"SYN",13,"XADT")=""
VAR(10,"SYN",13,"XRDT")=""
VAR(10,"SYN",14,"DSC")="5C5403N26O.21196"
VAR(10,"SYN",14,"TRM")="ACACIAE GUMMI"
VAR(10,"SYN",14,"XADT")=""
VAR(10,"SYN",14,"XRDT")=""
VAR(10,"SYN",15,"DSC")="5C5403N26O.21197"
VAR(10,"SYN",15,"TRM")="GUM SENEGAL"
VAR(10,"SYN",15,"XADT")=""
VAR(10,"SYN",15,"XRDT")=""
VAR(10,"SYN",16,"DSC")="5C5403N26O.21198"
VAR(10,"SYN",16,"TRM")="GUMMI ARABICUM"
VAR(10,"SYN",16,"XADT")=""
VAR(10,"SYN",16,"XRDT")=""
VAR(10,"SYN",17,"DSC")="5C5403N26O.21199"
VAR(10,"SYN",17,"TRM")="KHER RESIN"
VAR(10,"SYN",17,"XADT")=""
VAR(10,"SYN",17,"XRDT")=""
VAR(10,"SYN",18,"DSC")="5C5403N26O.21200"
VAR(10,"SYN",18,"TRM")="MIMOSA SENEGAL RESIN"
VAR(10,"SYN",18,"XADT")=""
VAR(10,"SYN",18,"XRDT")=""
VAR(10,"SYN",19,"DSC")="5C5403N26O.21201"
VAR(10,"SYN",19,"TRM")="RFAUDRAKSHA RESIN"
VAR(10,"SYN",19,"XADT")=""
VAR(10,"SYN",19,"XRDT")=""
VAR(10,"SYN",20,"DSC")="5C5403N26O.21202"
VAR(10,"SYN",20,"TRM")="SENEGAL GUM"
VAR(10,"SYN",20,"XADT")=""
VAR(10,"SYN",20,"XRDT")=""
VAR(10,"SYN",21,"DSC")="5C5403N26O.21203"
VAR(10,"SYN",21,"TRM")="SENEGALIA SENEGAL RESIN"
VAR(10,"SYN",21,"XADT")=""
VAR(10,"SYN",21,"XRDT")=""
VAR(10,"SYN",22,"DSC")="5C5403N26O.21204"
VAR(10,"SYN",22,"TRM")="THORNY ACACIA RESIN"
```

```
VAR(10,"SYN",22,"XADT")=""
VAR(10,"SYN",22,"XRDT")=""
VAR(10,"SYN",23,"DSC")="5C5403N26O.87148"
VAR(10,"SYN",23,"TRM")="ACACIA POWDER"
VAR(10,"SYN",23,"XADT")=""
VAR(10,"SYN",23,"XRDT")=""
VAR(10,"SYN",24,"DSC")="5C5403N26O.87149"
VAR(10,"SYN",24,"TRM")="ACACIA SENEGAL GUM EXTRACT"
VAR(10,"SYN",24,"XADT")=""
VAR(10,"SYN",24,"XRDT")=""
VAR(10,"SYN",25,"DSC")="5C5403N26O.87150"
VAR(10,"SYN",25,"TRM")="ACACIA ARABICA [HPUS]"
VAR(10,"SYN",25,"XADT")=""
VAR(10,"SYN",25,"XRDT")=""
VAR(10,"SYN",26,"DSC")="5C5403N26O.87151"
VAR(10,"SYN",26,"TRM")="ACACIA GUM [FHFI]"
VAR(10,"SYN",26,"XADT")=""
VAR(10,"SYN",26,"XRDT")=""
VAR(10,"SYN",27,"DSC")="5C5403N26O.87152"
VAR(10,"SYN",27,"TRM")="ACACIA, SPRAY-DRIED"
VAR(10,"SYN",27,"XADT")=""
VAR(10,"SYN",27,"XRDT")=""
VAR(10,"SYN",28,"DSC")="5C5403N26O.87153"
VAR(10,"SYN",28,"TRM")="ACACIA, SPRAY-DRIED [EP]"
VAR(10,"SYN",28,"XADT")=""
VAR(10,"SYN",28,"XRDT")=""
VAR(10,"SYN",29,"DSC")="5C5403N26O.87154"
VAR(10,"SYN",29,"TRM")="ARABIC GUM"
VAR(10,"SYN",29,"XADT")=""
VAR(10,"SYN",29,"XRDT")=""
VAR(10,"SYN",30,"DSC")="5C5403N26O.165019"
VAR(10,"SYN",30,"TRM")="ACACIA SENEGAL GUM"
VAR(10,"SYN",30,"XADT")=""
VAR(10,"SYN",30,"XRDT")=""
VAR(10,"SYN",31,"DSC")="5C5403N26O.165020"
VAR(10,"SYN",31,"TRM")="ACACIA SENEGAL GUM EXTRACT [INCI]"
VAR(10,"SYN",31,"XADT")=""
VAR(10,"SYN",31,"XRDT")=""
VAR(10,"SYN",32,"DSC")="5C5403N26O.165021"
VAR(10,"SYN",32,"TRM")="ACACIA SENEGAL GUM [INCI]"
VAR(10,"SYN",32,"XADT")=""
VAR(10,"SYN",32,"XRDT")=""
VAR(10,"SYN",33,"DSC")="5C5403N26O.165022"
VAR(10,"SYN",33,"TRM")="ACACIA [MART.]"
VAR(10,"SYN",33,"XADT")=""
VAR(10,"SYN",33,"XRDT")=""
VAR(10,"SYN",34,"DSC")="5C5403N26O.165023"
VAR(10,"SYN",34,"TRM")="ACACIA [MI]"
VAR(10,"SYN",34,"XADT")=""
VAR(10,"SYN",34,"XRDT")=""
VAR(10,"SYN",35,"DSC")="5C5403N26O.165024"
VAR(10,"SYN",35,"TRM")="GUM ARABIC [FCC]"
VAR(10,"SYN",35,"XADT")=""
VAR(10,"SYN",35,"XRDT")=""
VAR(10,"SYN",36,"DSC")="5C5403N26O.165025"
VAR(10,"SYN",36,"TRM")="ACACIA MUCILAGE [II]"
VAR(10,"SYN",36,"XADT")=""
VAR(10,"SYN",36,"XRDT")=""
VAR(10,"SYN",37,"DSC")="5C5403N26O.165026"
VAR(10,"SYN",37,"TRM")="ACACIA [II]"
VAR(10,"SYN",37,"XADT")=""
```

```
VAR(10,"SYN",37,"XRDT")=""
VAR(10,"SYN",38,"DSC")="5C5403N26O.316815"
VAR(10,"SYN",38,"TRM")="AE-GUM, ARABIC"
VAR(10,"SYN",38,"XADT")=""
VAR(10,"SYN",38,"XRDT")=""
VAR(10,"SYN",39,"DSC")="5C5403N26O.316816"
VAR(10,"SYN",39,"TRM")="AE-GUM, ACACIA"
VAR(10,"SYN",39,"XADT")=""
VAR(10,"SYN",39,"XRDT")=""
VAR(10,"SYN",40,"DSC")="5C5403N26O.316817"
VAR(10,"SYN",40,"TRM")="ALLERGENIC EXTRACT- GUM, ACACIA OR ARABIC ACACIA
SENEGAL"
VAR(10,"SYN",40,"XADT")=""
VAR(10,"SYN",40,"XRDT")=""
VAR(10,"SYN",41,"DSC")="5C5403N26O.316818"
VAR(10,"SYN",41,"TRM")="ARABIC GUM ALLERGENIC EXTRACT"
VAR(10,"SYN",41,"XADT")=""
VAR(10,"SYN",41,"XRDT")=""
VAR(10,"SYN",42,"DSC")="5C5403N26O.316819"
VAR(10,"SYN",42,"TRM")="ACACIA [HSDB]"
VAR(10,"SYN",42,"XADT")=""
VAR(10,"SYN",42,"XRDT")=""
VAR(10,"SYN",43,"DSC")="5C5403N26O.316820"
VAR(10,"SYN",43,"TRM")="ACACIA SENEGAL RESIN [WHO-DD]"
VAR(10,"SYN",43,"XADT")=""
VAR(10,"SYN",43,"XRDT")=""
VAR(10,"SYN",44,"DSC")="5C5403N26O.316821"
VAR(10,"SYN",44,"TRM")="ACACIA SENEGAL GUM [WHO-DD]"
VAR(10,"SYN",44,"XADT")=""
VAR(10,"SYN",44,"XRDT")=""
VAR(10,"SYN",45,"DSC")="5C5403N26O.316822"
VAR(10,"SYN",45,"TRM")="PLANTS AND PLANT PARTS, GUM, ACACIA OR ARABIC
ACACIA SENEGAL"
VAR(10,"SYN",45,"XADT")=""
VAR(10,"SYN",45,"XRDT")=""
VAR(10,"SYN",46,"DSC")="5C5403N26O.316823"
VAR(10,"SYN",46,"TRM")="GUM ARABIC [VANDF]"
VAR(10,"SYN",46,"XADT")=""
VAR(10,"SYN",46,"XRDT")=""
VAR(10,"SYN",47,"DSC")="5C5403N26O.316824"
VAR(10,"SYN",47,"TRM")="ACACIA [VANDF]"
VAR(10,"SYN",47,"XADT")=""
VAR(10,"SYN",47,"XRDT")=""
VAR(10,"SYN",48,"DSC")="5C5403N26O.316825"
VAR(10,"SYN",48,"TRM")="ACACIA POWDER [VANDF]"
VAR(10,"SYN",48,"XADT")=""
VAR(10,"SYN",48,"XRDT")=""
VAR(10,"XADT")=""
VAR(10,"XRDT")=""

>
```

The following example shows the records returned on a search on the GMRA Signs Symptoms (32772) namespace lookup:

```
>S OUT="VAR",IN="ABDOMINAL^S^32772"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
TEST4>ZW VAR
```

```
VAR(1,"ASM",1,"CON")=21522001
VAR(1,"ASM",1,"DTS")=21522
VAR(1,"CON")="ABDOMINAL PAIN"
VAR(1,"DTS")=4
VAR(1,"FSN","DSC")="T337"
VAR(1,"FSN","TRM")="ABDOMINAL PAIN"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"PRB","DSC")="T337"
VAR(1,"PRB","TRM")="ABDOMINAL PAIN"
VAR(1,"SYN",1,"DSC")="T1"
VAR(1,"SYN",1,"TRM")="GASTROINTESTINAL PAIN"
VAR(1,"SYN",1,"XADT")=""
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")="T2"
VAR(1,"SYN",2,"TRM")="GI PAIN"
VAR(1,"SYN",2,"XADT")=""
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"XADT")=""
VAR(1,"XRDT")=""
VAR(2,"ASM",1,"CON")=51197009
VAR(2,"ASM",1,"DTS")=51197
VAR(2,"CON")="ABDOMINAL CRAMPS"
VAR(2,"DTS")=2
VAR(2,"FSN","DSC")="T335"
VAR(2,"FSN","TRM")="ABDOMINAL CRAMPS"
VAR(2,"FSN","XADT")=""
VAR(2,"FSN","XRDT")=""
VAR(2,"PRB","DSC")="T335"
VAR(2,"PRB","TRM")="ABDOMINAL CRAMPS"
VAR(2,"XADT")=""
VAR(2,"XRDT")=""
VAR(3,"ASM",1,"CON")=116289008
VAR(3,"ASM",1,"DTS")=116289
VAR(3,"CON")="ABDOMINAL BLOATING"
VAR(3,"DTS")=1
VAR(3,"FSN","DSC")="T334"
VAR(3,"FSN","TRM")="ABDOMINAL BLOATING"
VAR(3,"FSN","XADT")=""
VAR(3,"FSN","XRDT")=""
VAR(3,"PRB","DSC")="T334"
VAR(3,"PRB","TRM")="ABDOMINAL BLOATING"
VAR(3,"XADT")=""
VAR(3,"XRDT")=""
VAR(4,"ASM",1,"CON")=43364001
VAR(4,"ASM",1,"DTS")=43364
VAR(4,"CON")="ABDOMINAL DISCOMFORT"
VAR(4,"DTS")=3
VAR(4,"FSN","DSC")="T336"
VAR(4,"FSN","TRM")="ABDOMINAL DISCOMFORT"
VAR(4,"FSN","XADT")=""
VAR(4,"FSN","XRDT")=""
VAR(4,"PRB","DSC")="T336"
VAR(4,"PRB","TRM")="ABDOMINAL DISCOMFORT"
VAR(4,"XADT")=""
VAR(4,"XRDT")=""

>
```

The following example shows the only the records returned of a GMRA Allergies with Maps namespace search:

```
>S OUT="VAR",IN="ABALONE^S^32773"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
TEST4>ZW @OUT
VAR(1,"AUN",1,"CON")="9V4Z7PZ92D"
VAR(1,"AUN",1,"DTS")=43
VAR(1,"CON")="ABALONE"
VAR(1,"DTS")=1
VAR(1,"FSN","DSC")="T1"
VAR(1,"FSN","TRM")="ABALONE"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"PRB","DSC")="T1"
VAR(1,"PRB","TRM")="ABALONE"
VAR(1,"XADT")=""
VAR(1,"XRDT")=""

>
```

The following example shows the only the records returned of a IHS VANDF namespace search:

```
>S OUT="VAR",IN="1,1,1 TRICHLOROETHANE^S^32771"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
TEST4>ZW @OUT
VAR(1,"AUN",1,"CON")="113C650IR1"
VAR(1,"AUN",1,"DTS")=10
VAR(1,"CON")="1,1,1 TRICHLOROETHANE"
VAR(1,"DTS")=21
VAR(1,"FSN","DSC")="T1"
VAR(1,"FSN","TRM")="1,1,1 TRICHLOROETHANE"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"PRB","DSC")="T1"
VAR(1,"PRB","TRM")="1,1,1 TRICHLOROETHANE"
VAR(1,"XADT")=""
VAR(1,"XRDT")=""
```

The following example shows the only the records returned of a IHS Med Route namespace search:

```
>S OUT="VAR",IN="ORAL^S^32774"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
TEST4>ZW @OUT
VAR(1,"ASM",1,"CON")=26643006
VAR(1,"ASM",1,"DTS")=26643
VAR(1,"CON")="ORAL"
VAR(1,"DTS")=23
VAR(1,"FSN","DSC")="T23"
VAR(1,"FSN","TRM")="ORAL"
VAR(1,"FSN","XADT")=""
```

```
VAR(1,"FSN","XRDT")=""
VAR(1,"PRB","DSC")="T23"
VAR(1,"PRB","TRM")="ORAL"
VAR(1,"XADT")=""
VAR(1,"XRDT")=""

>
```

A.2 $$CODESETS^BSTSAPI

The following example displays the results of a standard call to this function as well as shows how information can be stored in a scratch global:

```
>S OUT=$NA(^TMP("BSTSAPI",$J)),IN=""

GOLD4>W $$CODESETS^BSTSAPI(OUT,IN)
2^
>ZW @OUT
^TMP("BSTSAPI",9588,1)="32778^32778^SNOMED CT to ICD-9-CM Auto-Codeables"
^TMP("BSTSAPI",9588,2)="10^ICD-9-CM-C1^ICD-9-CM"
^TMP("BSTSAPI",9588,3)="5140^ICD10CM^ICD-10-CM"
^TMP("BSTSAPI",9588,4)="5102^LOINC-3^LOINC"
^TMP("BSTSAPI",9588,5)="32768^N32768^IHS"
^TMP("BSTSAPI",9588,6)="32769^N32769^SNOMED CT to ICD-10-CM Old"
^TMP("BSTSAPI",9588,7)="32770^N32770^ECLIPS"
^TMP("BSTSAPI",9588,8)="32771^N32771^IHS VANDF"
^TMP("BSTSAPI",9588,9)="32772^N32772^GMRA Signs Symptoms"
^TMP("BSTSAPI",9588,10)="32773^N32773^GMRA Allergies with Maps"
^TMP("BSTSAPI",9588,11)="32774^N32774^IHS Med Route"
^TMP("BSTSAPI",9588,12)="32775^N32775^CPT Meds with Maps"
^TMP("BSTSAPI",9588,13)="32776^N32776^SCT TO ICD-10-CM Auto-Codeables"
^TMP("BSTSAPI",9588,14)="32777^N32777^SNOMED CT to ICD-10-CM Auto-
Codeables"
^TMP("BSTSAPI",9588,15)="1552^RXNORMR^RxNorm R"
^TMP("BSTSAPI",9588,16)="35290^SCT-US-MAP_ICD10CM^SNOMED CT US Ext to ICD-
10-CM"
^TMP("BSTSAPI",9588,17)="36^SCTUSEXT^SNOMED CT US Extension"
^TMP("BSTSAPI",9588,18)="30^SNOMED^SNOMED CT"
^TMP("BSTSAPI",9588,19)="5180^UNII^FDA UNII"

>
```

A.3 $$VERSIONS^BSTSAPI

The following example displays a list of versions available for the SNOMED codeset:

```
>S OUT=$NA(^TMP("BSTSAPI",$J)),IN="36"

>W $$VERSIONS^BSTSAPI(OUT,IN)
2^
>ZW @OUT
^TMP("BSTSAPI",8316,1)="20120301^2012.03.11AB^2012-03-01 07:00:00^"
^TMP("BSTSAPI",8316,2)="20120901^2012.09.12AA^2012-09-01 06:00:00^"
^TMP("BSTSAPI",8316,3)="20130301^2013.03.12AB^2013-03-01 07:00:00^"

>
```

A.4 $$MPADVICE^BSTSAPI

The following example displays ICD-10 mapping information available for a particular concept ID (utilizing a local cache lookup):

```
>S OUT="VAR",IN=2032001

>W $$MPADVICE^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"MPADV","VAL")="ALWAYS G93.6"
VAR(1,"MPCVL","VAL")="Map source concept is properly classified"
VAR(1,"MPGRP","VAL")=1
VAR(1,"MPPRI","VAL")=5
VAR(1,"MPRUL","VAL")="OTHERWISE TRUE"
VAR(1,"MPTGN","VAL")="Cerebral edema"
VAR(1,"MPTGT","VAL")="G93.6"
VAR(2,"MPADV","VAL")="IF CEREBRAL EDEMA DUE TO BIRTH INJURY CHOOSE P11.0 |
MAP OF SOURCE CONCEPT IS CONTEXT DEPENDENT"
VAR(2,"MPCVL","VAL")="Map of source concept is context dependent"
VAR(2,"MPGRP","VAL")=1
VAR(2,"MPPRI","VAL")=1
VAR(2,"MPRUL","VAL")="IFA 206238001 | Cerebral edema due to birth injury
(disorder) |"
VAR(2,"MPTGN","VAL")="Cerebral edema due to birth injury"
VAR(2,"MPTGT","VAL")="P11.0"
VAR(3,"MPADV","VAL")="IF TRAUMATIC CEREBRAL EDEMA WITH OPEN INTRACRANIAL
WOUND CHOOSE S01.80X? | EPISODE OF CARE INFORMATION NEEDED | POSSIBLE
REQUIREMENT FOR A
N EXTERNAL CAUSE CODE | MAP OF SOURCE CONCEPT IS CONTEXT DEPENDENT"
VAR(3,"MPCVL","VAL")="Map of source concept is context dependent"
VAR(3,"MPGRP","VAL")=2
VAR(3,"MPPRI","VAL")=1
VAR(3,"MPRUL","VAL")="IFA 311826007 | Traumatic cerebral edema with open
intracranial wound (disorder) |"
VAR(3,"MPTGN","VAL")="Unspecified open wound of other part of head, episode
of care unspecified"
VAR(3,"MPTGT","VAL")="S01.80X?"
VAR(4,"MPADV","VAL")="IF TRAUMATIC CEREBRAL EDEMA CHOOSE S06.1X0? |
CONSIDER ADDITIONAL CODE TO IDENTIFY SPECIFIC CONDITION OR DISEASE |
EPISODE OF CARE INFORMA
TION NEEDED | POSSIBLE REQUIREMENT FOR AN EXTERNAL CAUSE CODE | MAP OF
SOURCE CONCEPT IS CONTEXT DEPENDENT"
VAR(4,"MPCVL","VAL")="Map of source concept is context dependent"
VAR(4,"MPGRP","VAL")=1
VAR(4,"MPPRI","VAL")=4
VAR(4,"MPRUL","VAL")="IFA 230763008 | Traumatic cerebral edema (disorder)
|"
VAR(4,"MPTGN","VAL")="Traumatic cerebral edema without loss of
consciousness, episode of care unspecified"
VAR(4,"MPTGT","VAL")="S06.1X0?"
VAR(5,"MPADV","VAL")="IF TRAUMATIC CEREBRAL EDEMA WITH OPEN INTRACRANIAL
WOUND CHOOSE S06.1X0? | EPISODE OF CARE INFORMATION NEEDED | POSSIBLE
REQUIREMENT FOR AN EXTERNAL CAUSE CODE | MAP OF SOURCE CONCEPT IS CONTEXT
DEPENDENT"
VAR(5,"MPCVL","VAL")="Map of source concept is context dependent"
VAR(5,"MPGRP","VAL")=1
VAR(5,"MPPRI","VAL")=3
VAR(5,"MPRUL","VAL")="IFA 311826007 | Traumatic cerebral edema with open
intracranial wound (disorder) |"
```

```
VAR(5,"MPTGN","VAL")="Traumatic cerebral edema without loss of
consciousness, episode of care unspecified"
VAR(5,"MPTGT","VAL")="S06.1X0?"
VAR(6,"MPADV","VAL")="IF TRAUMATIC CEREBRAL EDEMA WITHOUT OPEN INTRACRANIAL
WOUND CHOOSE S06.1X0? | EPISODE OF CARE INFORMATION NEEDED | POSSIBLE
REQUIREMENT FOR AN EXTERNAL CAUSE CODE | MAP OF SOURCE CONCEPT IS CONTEXT
DEPENDENT"
VAR(6,"MPCVL","VAL")="Map of source concept is context dependent"
VAR(6,"MPGRP","VAL")=1
VAR(6,"MPPRI","VAL")=2
VAR(6,"MPRUL","VAL")="IFA 311825006 | Traumatic cerebral edema without open
intracranial wound (disorder) |"
VAR(6,"MPTGN","VAL")="Traumatic cerebral edema without loss of
consciousness, episode of care unspecified"
VAR(6,"MPTGT","VAL")="S06.1X0?"
VAR(7,"MPADV","VAL")="MAP SOURCE CONCEPT CANNOT BE CLASSIFIED WITH
AVAILABLE DATA"
VAR(7,"MPCVL","VAL")="Map source concept cannot be classified with
available data"
VAR(7,"MPGRP","VAL")=2
VAR(7,"MPPRI","VAL")=2
VAR(7,"MPRUL","VAL")="OTHERWISE TRUE"
VAR(7,"MPTGN","VAL")=""
VAR(7,"MPTGT","VAL")=""

>
```

A.5 $$CVRSN^BSTSAPI

The following example returns the current version for the for the SNOMED codeset:

```
>S OUT="VAR",IN="36"

>W $$CVRSN^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR="20130301^2013.03.12AB^2013-03-01 07:00:00^"

>
```

A.6 $$SUBSET^BSTSAPI

The following example displays a list of subsets available for the SNOMED CT US Extensions codeset, using a local cache lookup:

```
>S OUT=$NA(^TMP("BSTSAPI",$J)),IN="36"

>W $$SUBSET^BSTSAPI(OUT,IN)
1
>ZW @OUT
^TMP("BSTSAPI",8352,1)="(RET) PICK CQM Problems"
^TMP("BSTSAPI",8352,2)="(RET) PICK NIST Problems"
^TMP("BSTSAPI",8352,3)="(RET) SRCH CQM Problems"
^TMP("BSTSAPI",8352,4)="(RET) SRCH NIST Problems"
^TMP("BSTSAPI",8352,5)="EHR IPL ASTHMA DXS"
^TMP("BSTSAPI",8352,6)="EHR IPL ASTHMA TX REGIMEN"
^TMP("BSTSAPI",8352,7)="EHR IPL CLINICAL COURSE"
```

```
^TMP("BSTSAPI",8352,8)="EHR IPL PICK ASTHMA"
^TMP("BSTSAPI",8352,9)="EHR IPL POV EPISODICITIES"
^TMP("BSTSAPI",8352,10)="EHR IPL PROBLEM QUALIFIERS"
^TMP("BSTSAPI",8352,11)="EHR IPL SEVERITY"
^TMP("BSTSAPI",8352,12)="EHR IPL TREATMENT REGIMEN"
^TMP("BSTSAPI",8352,13)="EHR REASONS NOT DONE"
^TMP("BSTSAPI",8352,14)="EHR REASONS NOT DONE MEDS"
^TMP("BSTSAPI",8352,15)="EHR REASONS NOT DONE OTHERS"
^TMP("BSTSAPI",8352,16)="EHR REFERRAL TYPE"
^TMP("BSTSAPI",8352,17)="EHR SUICIDE RELATED"
^TMP("BSTSAPI",8352,18)="EHR V AMI CHEST PAIN"
^TMP("BSTSAPI",8352,19)="EHR V AMI EKG FINDINGS"
^TMP("BSTSAPI",8352,20)="EHR V STROKE NEURO SYMPTOMS"
^TMP("BSTSAPI",8352,21)="IHS PROBLEM SUPERSET"
^TMP("BSTSAPI",8352,22)="IHS Problem List"
^TMP("BSTSAPI",8352,23)="Infectious Disease"
^TMP("BSTSAPI",8352,24)="PICK Abnormal Findings"
^TMP("BSTSAPI",8352,25)="PICK Administrative"
^TMP("BSTSAPI",8352,26)="PICK BH-SUD"
^TMP("BSTSAPI",8352,27)="PICK BH-Social Family Issues"
^TMP("BSTSAPI",8352,28)="PICK Behavioral Health"
^TMP("BSTSAPI",8352,29)="PICK Cardiology"
^TMP("BSTSAPI",8352,30)="PICK Case Management"
^TMP("BSTSAPI",8352,31)="PICK Dermatology"
^TMP("BSTSAPI",8352,32)="PICK Diabetes"
^TMP("BSTSAPI",8352,33)="PICK Diabetes Education"
^TMP("BSTSAPI",8352,34)="PICK ENT"
^TMP("BSTSAPI",8352,35)="PICK ENT - Ear"
^TMP("BSTSAPI",8352,36)="PICK ENT - Face and Neck"
^TMP("BSTSAPI",8352,37)="PICK ENT - Fractures"
^TMP("BSTSAPI",8352,38)="PICK ENT - Mouth and Throat"
^TMP("BSTSAPI",8352,39)="PICK ENT - Neoplasm"
^TMP("BSTSAPI",8352,40)="PICK ENT - Nose and Sinus"
^TMP("BSTSAPI",8352,41)="PICK ENT - Sleep"
^TMP("BSTSAPI",8352,42)="PICK Emergency Department"
^TMP("BSTSAPI",8352,43)="PICK Eye General"
^TMP("BSTSAPI",8352,44)="PICK Eye Surgery"
^TMP("BSTSAPI",8352,45)="PICK Family Practice"
^TMP("BSTSAPI",8352,46)="PICK Health Maint/Screenings"
^TMP("BSTSAPI",8352,47)="PICK Laboratory"
^TMP("BSTSAPI",8352,48)="PICK MH-Anxiety Disorders"
^TMP("BSTSAPI",8352,49)="PICK MH-Bipolar Disorders"
^TMP("BSTSAPI",8352,50)="PICK MH-Depressive Disorders"
^TMP("BSTSAPI",8352,51)="PICK MH-Disrupt Imp Conduct"
^TMP("BSTSAPI",8352,52)="PICK MH-Neurocog Disorders"
^TMP("BSTSAPI",8352,53)="PICK MH-Neurodevelopmental"
^TMP("BSTSAPI",8352,54)="PICK MH-Other Disorders"
^TMP("BSTSAPI",8352,55)="PICK MH-Schiz and Psychotic"
^TMP("BSTSAPI",8352,56)="PICK MH-Trauma And Stress"
^TMP("BSTSAPI",8352,57)="PICK Medicine - Inpatient"
^TMP("BSTSAPI",8352,58)="PICK Medicine - Urgent Care"
^TMP("BSTSAPI",8352,59)="PICK Musculoskeletal-Fx"
^TMP("BSTSAPI",8352,60)="PICK Musculoskeletal-Non Fx"
^TMP("BSTSAPI",8352,61)="PICK Nursing"
^TMP("BSTSAPI",8352,62)="PICK Nursing - Ambulatory"
^TMP("BSTSAPI",8352,63)="PICK Nursing - ED/UC"
^TMP("BSTSAPI",8352,64)="PICK Nursing - Inpatient"
^TMP("BSTSAPI",8352,65)="PICK Nursing - Public Health"
^TMP("BSTSAPI",8352,66)="PICK Nutrition"
^TMP("BSTSAPI",8352,67)="PICK Physical Medicine"
^TMP("BSTSAPI",8352,68)="PICK Podiatry"
```

```
^TMP("BSTSAPI",8352,69)="PICK Podiatry-Fx"
^TMP("BSTSAPI",8352,70)="PICK Podiatry-Non Fx"
^TMP("BSTSAPI",8352,71)="PICK Prenatal"
^TMP("BSTSAPI",8352,72)="PICK Prenatal - Care"
^TMP("BSTSAPI",8352,73)="PICK Prenatal - Problem Fetus"
^TMP("BSTSAPI",8352,74)="PICK Prenatal - Problem Pregnancy"
^TMP("BSTSAPI",8352,75)="PICK Prenatal - Risk"
^TMP("BSTSAPI",8352,76)="PICK Respiratory"
^TMP("BSTSAPI",8352,77)="PICK Rheumatology"
^TMP("BSTSAPI",8352,78)="PICK Social Services"
^TMP("BSTSAPI",8352,79)="PICK WH - Family Planning"
^TMP("BSTSAPI",8352,80)="PICK WH - Pap Results"
^TMP("BSTSAPI",8352,81)="PICK WH - Pelvic Pain"
^TMP("BSTSAPI",8352,82)="PXRM ASTHMA"
^TMP("BSTSAPI",8352,83)="PXRM COLORECTAL CANCER"
^TMP("BSTSAPI",8352,84)="PXRM DIABETES"
^TMP("BSTSAPI",8352,85)="PXRM DIABETIC NEPHROPATHY"
^TMP("BSTSAPI",8352,86)="PXRM DIALYSIS"
^TMP("BSTSAPI",8352,87)="PXRM HIV"
^TMP("BSTSAPI",8352,88)="PXRM HYPERTENSION"
^TMP("BSTSAPI",8352,89)="PXRM ISCHEMIC HEART DISEASE"
^TMP("BSTSAPI",8352,90)="PXRM OSTEOPOROSIS-OSTEOPENIA"
^TMP("BSTSAPI",8352,91)="SRCH Abnormal Findings"
^TMP("BSTSAPI",8352,92)="SRCH Administrative"
^TMP("BSTSAPI",8352,93)="SRCH Asthma"
^TMP("BSTSAPI",8352,94)="SRCH Audiology"
^TMP("BSTSAPI",8352,95)="SRCH Behavioral Health"
^TMP("BSTSAPI",8352,96)="SRCH COG FUNCT STATUS"
^TMP("BSTSAPI",8352,97)="SRCH Cardiology"
^TMP("BSTSAPI",8352,98)="SRCH Case Management"
^TMP("BSTSAPI",8352,99)="SRCH Complimentary Medicine"
^TMP("BSTSAPI",8352,100)="SRCH Dental"
^TMP("BSTSAPI",8352,101)="SRCH Dermatology"
^TMP("BSTSAPI",8352,102)="SRCH Diabetes"
^TMP("BSTSAPI",8352,103)="SRCH Diabetes Education"
^TMP("BSTSAPI",8352,104)="SRCH ENT"
^TMP("BSTSAPI",8352,105)="SRCH Emergency Department"
^TMP("BSTSAPI",8352,106)="SRCH Eye General"
^TMP("BSTSAPI",8352,107)="SRCH Eye Surgery"
^TMP("BSTSAPI",8352,108)="SRCH Family History"
^TMP("BSTSAPI",8352,109)="SRCH Family Practice"
^TMP("BSTSAPI",8352,110)="SRCH Gastrointestinal"
^TMP("BSTSAPI",8352,111)="SRCH Health Maint/Screenings"
^TMP("BSTSAPI",8352,112)="SRCH Hematology/Oncology"
^TMP("BSTSAPI",8352,113)="SRCH Immunizations"
^TMP("BSTSAPI",8352,114)="SRCH Laboratory"
^TMP("BSTSAPI",8352,115)="SRCH Medicine - Inpatient"
^TMP("BSTSAPI",8352,116)="SRCH Medicine - Urgent Care"
^TMP("BSTSAPI",8352,117)="SRCH Musculoskeletal"
^TMP("BSTSAPI",8352,118)="SRCH Neurology"
^TMP("BSTSAPI",8352,119)="SRCH Nursing - Ambulatory"
^TMP("BSTSAPI",8352,120)="SRCH Nursing - ED/UC"
^TMP("BSTSAPI",8352,121)="SRCH Nursing - Inpatient"
^TMP("BSTSAPI",8352,122)="SRCH Nursing - Public Health"
^TMP("BSTSAPI",8352,123)="SRCH Nutrition"
^TMP("BSTSAPI",8352,124)="SRCH Pain Management"
^TMP("BSTSAPI",8352,125)="SRCH Pediatrics"
^TMP("BSTSAPI",8352,126)="SRCH Pharmacy"
^TMP("BSTSAPI",8352,127)="SRCH Physical Medicine"
^TMP("BSTSAPI",8352,128)="SRCH Podiatry"
^TMP("BSTSAPI",8352,129)="SRCH Prenatal"
```

```
^TMP("BSTSAPI",8352,130)="SRCH Preventive Care"
^TMP("BSTSAPI",8352,131)="SRCH Problem List - Medical"
^TMP("BSTSAPI",8352,132)="SRCH Problem List - Nursing"
^TMP("BSTSAPI",8352,133)="SRCH Problem List - Social Env"
^TMP("BSTSAPI",8352,134)="SRCH Respiratory"
^TMP("BSTSAPI",8352,135)="SRCH Rheumatology"
^TMP("BSTSAPI",8352,136)="SRCH Social Services"
^TMP("BSTSAPI",8352,137)="SRCH Suicide"
^TMP("BSTSAPI",8352,138)="SRCH Urology/Nephrology"
^TMP("BSTSAPI",8352,139)="SRCH WH - Family Planning"
^TMP("BSTSAPI",8352,140)="SRCH WH - General"
^TMP("BSTSAPI",8352,141)="SRCH WH - Pap Results"
^TMP("BSTSAPI",8352,142)="SRCH WH - Pelvic Pain"
^TMP("BSTSAPI",8352,143)="TREG Anticoag DVT Prevention"
^TMP("BSTSAPI",8352,144)="TREG Asthma"
^TMP("BSTSAPI",8352,145)="TREG Behavioral Health"
^TMP("BSTSAPI",8352,146)="TREG Case Management"
^TMP("BSTSAPI",8352,147)="TREG Dialysis"
^TMP("BSTSAPI",8352,148)="TREG Follow Up"
^TMP("BSTSAPI",8352,149)="TREG Nursing"
^TMP("BSTSAPI",8352,150)="TREG Substance Abuse"
^TMP("BSTSAPI",8352,151)="TREG Wound Care"

>
```

The following example displays a list of subsets available for the SNOMED CT US Extensions codeset, utilizing a remote lookup to the DTS server:

```
>S OUT=$NA(^TMP("BSTSAPI",$J)),IN="36^2"

>W $$SUBSET^BSTSAPI(OUT,IN)
2^
>ZW @OUT
^TMP("BSTSAPI",8352,1)="(RET) PICK CQM Problems"
^TMP("BSTSAPI",8352,2)="(RET) PICK NIST Problems"
^TMP("BSTSAPI",8352,3)="(RET) SRCH CQM Problems"
^TMP("BSTSAPI",8352,4)="(RET) SRCH NIST Problems"
^TMP("BSTSAPI",8352,5)="EHR IPL ASTHMA DXS"
^TMP("BSTSAPI",8352,6)="EHR IPL ASTHMA TX REGIMEN"
^TMP("BSTSAPI",8352,7)="EHR IPL CLINICAL COURSE"
^TMP("BSTSAPI",8352,8)="EHR IPL PICK ASTHMA"
^TMP("BSTSAPI",8352,9)="EHR IPL POV EPISODICITIES"
^TMP("BSTSAPI",8352,10)="EHR IPL PROBLEM QUALIFIERS"
^TMP("BSTSAPI",8352,11)="EHR IPL SEVERITY"
^TMP("BSTSAPI",8352,12)="EHR IPL TREATMENT REGIMEN"
^TMP("BSTSAPI",8352,13)="EHR REASONS NOT DONE"
^TMP("BSTSAPI",8352,14)="EHR REASONS NOT DONE MEDS"
^TMP("BSTSAPI",8352,15)="EHR REASONS NOT DONE OTHERS"
^TMP("BSTSAPI",8352,16)="EHR REFERRAL TYPE"
^TMP("BSTSAPI",8352,17)="EHR SUICIDE RELATED"
^TMP("BSTSAPI",8352,18)="EHR V AMI CHEST PAIN"
^TMP("BSTSAPI",8352,19)="EHR V AMI EKG FINDINGS"
^TMP("BSTSAPI",8352,20)="EHR V STROKE NEURO SYMPTOMS"
^TMP("BSTSAPI",8352,21)="IHS Problem List"
^TMP("BSTSAPI",8352,22)="IHS PROBLEM SUPERSET"
^TMP("BSTSAPI",8352,23)="Infectious Disease"
^TMP("BSTSAPI",8352,24)="PICK Abnormal Findings"
^TMP("BSTSAPI",8352,25)="PICK Administrative"
^TMP("BSTSAPI",8352,26)="PICK Behavioral Health"
^TMP("BSTSAPI",8352,27)="PICK BH-Social Family Issues"
```

```
^TMP("BSTSAPI",8352,28)="PICK BH-SUD"
^TMP("BSTSAPI",8352,29)="PICK Cardiology"
^TMP("BSTSAPI",8352,30)="PICK Case Management"
^TMP("BSTSAPI",8352,31)="PICK Dermatology"
^TMP("BSTSAPI",8352,32)="PICK Diabetes"
^TMP("BSTSAPI",8352,33)="PICK Diabetes Education"
^TMP("BSTSAPI",8352,34)="PICK Emergency Department"
^TMP("BSTSAPI",8352,35)="PICK ENT"
^TMP("BSTSAPI",8352,36)="PICK ENT - Ear"
^TMP("BSTSAPI",8352,37)="PICK ENT - Face and Neck"
^TMP("BSTSAPI",8352,38)="PICK ENT - Fractures"
^TMP("BSTSAPI",8352,39)="PICK ENT - Mouth and Throat"
^TMP("BSTSAPI",8352,40)="PICK ENT - Neoplasm"
^TMP("BSTSAPI",8352,41)="PICK ENT - Nose and Sinus"
^TMP("BSTSAPI",8352,42)="PICK ENT - Sleep"
^TMP("BSTSAPI",8352,43)="PICK Eye General"
^TMP("BSTSAPI",8352,44)="PICK Eye Surgery"
^TMP("BSTSAPI",8352,45)="PICK Family Practice"
^TMP("BSTSAPI",8352,46)="PICK Health Maint/Screenings"
^TMP("BSTSAPI",8352,47)="PICK Laboratory"
^TMP("BSTSAPI",8352,48)="PICK Medicine - Inpatient"
^TMP("BSTSAPI",8352,49)="PICK Medicine - Urgent Care"
^TMP("BSTSAPI",8352,50)="PICK MH-Anxiety Disorders"
^TMP("BSTSAPI",8352,51)="PICK MH-Bipolar Disorders"
^TMP("BSTSAPI",8352,52)="PICK MH-Depressive Disorders"
^TMP("BSTSAPI",8352,53)="PICK MH-Disrupt Imp Conduct"
^TMP("BSTSAPI",8352,54)="PICK MH-Neurocog Disorders"
^TMP("BSTSAPI",8352,55)="PICK MH-Neurodevelopmental"
^TMP("BSTSAPI",8352,56)="PICK MH-Other Disorders"
^TMP("BSTSAPI",8352,57)="PICK MH-Schiz and Psychotic"
^TMP("BSTSAPI",8352,58)="PICK MH-Trauma And Stress"
^TMP("BSTSAPI",8352,59)="PICK Musculoskeletal-Fx"
^TMP("BSTSAPI",8352,60)="PICK Musculoskeletal-Non Fx"
^TMP("BSTSAPI",8352,61)="PICK Nursing"
^TMP("BSTSAPI",8352,62)="PICK Nursing - Ambulatory"
^TMP("BSTSAPI",8352,63)="PICK Nursing - ED/UC"
^TMP("BSTSAPI",8352,64)="PICK Nursing - Inpatient"
^TMP("BSTSAPI",8352,65)="PICK Nursing - Public Health"
^TMP("BSTSAPI",8352,66)="PICK Nutrition"
^TMP("BSTSAPI",8352,67)="PICK Physical Medicine"
^TMP("BSTSAPI",8352,68)="PICK Podiatry"
^TMP("BSTSAPI",8352,69)="PICK Podiatry-Fx"
^TMP("BSTSAPI",8352,70)="PICK Podiatry-Non Fx"
^TMP("BSTSAPI",8352,71)="PICK Prenatal"
^TMP("BSTSAPI",8352,72)="PICK Prenatal - Care"
^TMP("BSTSAPI",8352,73)="PICK Prenatal - Problem Fetus"
^TMP("BSTSAPI",8352,74)="PICK Prenatal - Problem Pregnancy"
^TMP("BSTSAPI",8352,75)="PICK Prenatal - Risk"
^TMP("BSTSAPI",8352,76)="PICK Respiratory"
^TMP("BSTSAPI",8352,77)="PICK Rheumatology"
^TMP("BSTSAPI",8352,78)="PICK Social Services"
^TMP("BSTSAPI",8352,79)="PICK WH - Family Planning"
^TMP("BSTSAPI",8352,80)="PICK WH - Pap Results"
^TMP("BSTSAPI",8352,81)="PICK WH - Pelvic Pain"
^TMP("BSTSAPI",8352,82)="PXRM ASTHMA"
^TMP("BSTSAPI",8352,83)="PXRM COLORECTAL CANCER"
^TMP("BSTSAPI",8352,84)="PXRM DIABETES"
^TMP("BSTSAPI",8352,85)="PXRM DIABETIC NEPHROPATHY"
^TMP("BSTSAPI",8352,86)="PXRM DIALYSIS"
^TMP("BSTSAPI",8352,87)="PXRM HIV"
^TMP("BSTSAPI",8352,88)="PXRM HYPERTENSION"
```

```
^TMP("BSTSAPI",8352,89)="PXRM ISCHEMIC HEART DISEASE"
^TMP("BSTSAPI",8352,90)="PXRM OSTEOPOROSIS-OSTEOPENIA"
^TMP("BSTSAPI",8352,91)="SRCH Abnormal Findings"
^TMP("BSTSAPI",8352,92)="SRCH Administrative"
^TMP("BSTSAPI",8352,93)="SRCH Asthma"
^TMP("BSTSAPI",8352,94)="SRCH Audiology"
^TMP("BSTSAPI",8352,95)="SRCH Behavioral Health"
^TMP("BSTSAPI",8352,96)="SRCH Cardiology"
^TMP("BSTSAPI",8352,97)="SRCH Case Management"
^TMP("BSTSAPI",8352,98)="SRCH COG FUNCT STATUS"
^TMP("BSTSAPI",8352,99)="SRCH Complimentary Medicine"
^TMP("BSTSAPI",8352,100)="SRCH Dental"
^TMP("BSTSAPI",8352,101)="SRCH Dermatology"
^TMP("BSTSAPI",8352,102)="SRCH Diabetes"
^TMP("BSTSAPI",8352,103)="SRCH Diabetes Education"
^TMP("BSTSAPI",8352,104)="SRCH Emergency Department"
^TMP("BSTSAPI",8352,105)="SRCH ENT"
^TMP("BSTSAPI",8352,106)="SRCH Eye General"
^TMP("BSTSAPI",8352,107)="SRCH Eye Surgery"
^TMP("BSTSAPI",8352,108)="SRCH Family History"
^TMP("BSTSAPI",8352,109)="SRCH Family Practice"
^TMP("BSTSAPI",8352,110)="SRCH Gastrointestinal"
^TMP("BSTSAPI",8352,111)="SRCH Health Maint/Screenings"
^TMP("BSTSAPI",8352,112)="SRCH Hematology/Oncology"
^TMP("BSTSAPI",8352,113)="SRCH Immunizations"
^TMP("BSTSAPI",8352,114)="SRCH Laboratory"
^TMP("BSTSAPI",8352,115)="SRCH Medicine - Inpatient"
^TMP("BSTSAPI",8352,116)="SRCH Medicine - Urgent Care"
^TMP("BSTSAPI",8352,117)="SRCH Musculoskeletal"
^TMP("BSTSAPI",8352,118)="SRCH Neurology"
^TMP("BSTSAPI",8352,119)="SRCH Nursing - Ambulatory"
^TMP("BSTSAPI",8352,120)="SRCH Nursing - ED/UC"
^TMP("BSTSAPI",8352,121)="SRCH Nursing - Inpatient"
^TMP("BSTSAPI",8352,122)="SRCH Nursing - Public Health"
^TMP("BSTSAPI",8352,123)="SRCH Nutrition"
^TMP("BSTSAPI",8352,124)="SRCH Pain Management"
^TMP("BSTSAPI",8352,125)="SRCH Pediatrics"
^TMP("BSTSAPI",8352,126)="SRCH Pharmacy"
^TMP("BSTSAPI",8352,127)="SRCH Physical Medicine"
^TMP("BSTSAPI",8352,128)="SRCH Podiatry"
^TMP("BSTSAPI",8352,129)="SRCH Prenatal"
^TMP("BSTSAPI",8352,130)="SRCH Preventive Care"
^TMP("BSTSAPI",8352,131)="SRCH Problem List - Medical"
^TMP("BSTSAPI",8352,132)="SRCH Problem List - Nursing"
^TMP("BSTSAPI",8352,133)="SRCH Problem List - Social Env"
^TMP("BSTSAPI",8352,134)="SRCH Respiratory"
^TMP("BSTSAPI",8352,135)="SRCH Rheumatology"
^TMP("BSTSAPI",8352,136)="SRCH Social Services"
^TMP("BSTSAPI",8352,137)="SRCH Suicide"
^TMP("BSTSAPI",8352,138)="SRCH Urology/Nephrology"
^TMP("BSTSAPI",8352,139)="SRCH WH - Family Planning"
^TMP("BSTSAPI",8352,140)="SRCH WH - General"
^TMP("BSTSAPI",8352,141)="SRCH WH - Pap Results"
^TMP("BSTSAPI",8352,142)="SRCH WH - Pelvic Pain"
^TMP("BSTSAPI",8352,143)="TREG Anticoag DVT Prevention"
^TMP("BSTSAPI",8352,144)="TREG Asthma"
^TMP("BSTSAPI",8352,145)="TREG Behavioral Health"
^TMP("BSTSAPI",8352,146)="TREG Case Management"
^TMP("BSTSAPI",8352,147)="TREG Dialysis"
^TMP("BSTSAPI",8352,148)="TREG Follow Up"
^TMP("BSTSAPI",8352,149)="TREG Nursing"
```

```
^TMP("BSTSAPI",8352,150)="TREG Substance Abuse"
^TMP("BSTSAPI",8352,151)="TREG Wound Care"

>
```

A.7 $$VALTERM^BSTSAPI

The following example will return whether a supplied term is a valid in a given code set and version (utilizing a lookup to the local cache):

```
>S OUT="VAR",IN="COMMON COLD"

>W $$VALTERM^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"CON")=82272006
VAR(1,"DTS")=82272
VAR(1,"FSN","DSC")=823660015
VAR(1,"FSN","TRM")="Common cold (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"ICD",1,"COD")=460
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ICD",1,"XADT")=""
VAR(1,"ICD",1,"XRDT")=""
VAR(1,"ISA",1,"CON")=281794004
VAR(1,"ISA",1,"DTS")=281794
VAR(1,"ISA",1,"TRM")="Viral upper respiratory tract infection (disorder)"
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"PRB","DSC")=136463019
VAR(1,"PRB","TRM")="Common cold"
VAR(1,"PRE","DSC")=136463019
VAR(1,"PRE","TRM")="Common cold"
VAR(1,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM SUPERSET"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SUB",2,"SUB")="IHS Problem List"
VAR(1,"SUB",2,"XADT")=""
VAR(1,"SUB",2,"XRDT")=""
VAR(1,"SUB",3,"SUB")="SRCH Asthma"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="SRCH Audiology"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SUB",5,"SUB")="SRCH Complimentary Medicine"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="SRCH Emergency Department"
VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
VAR(1,"SUB",7,"SUB")="SRCH ENT"
VAR(1,"SUB",7,"XADT")=""
VAR(1,"SUB",7,"XRDT")=""
VAR(1,"SUB",8,"SUB")="SRCH Family Practice"
VAR(1,"SUB",8,"XADT")=""
```

```
VAR(1,"SUB",8,"XRDT")=""
VAR(1,"SUB",9,"SUB")="SRCH Medicine - Inpatient"
VAR(1,"SUB",9,"XADT")=""
VAR(1,"SUB",9,"XRDT")=""
VAR(1,"SUB",10,"SUB")="SRCH Medicine - Urgent Care"
VAR(1,"SUB",10,"XADT")=""
VAR(1,"SUB",10,"XRDT")=""
VAR(1,"SUB",11,"SUB")="SRCH Problem List - Medical"
VAR(1,"SUB",11,"XADT")=""
VAR(1,"SUB",11,"XRDT")=""
VAR(1,"SUB",12,"SUB")="SRCH Respiratory"
VAR(1,"SUB",12,"XADT")=""
VAR(1,"SUB",12,"XRDT")=""
VAR(1,"SUB",13,"SUB")="PICK Family Practice"
VAR(1,"SUB",13,"XADT")=""
VAR(1,"SUB",13,"XRDT")=""
VAR(1,"SUB",14,"SUB")="PICK Medicine - Inpatient"
VAR(1,"SUB",14,"XADT")=""
VAR(1,"SUB",14,"XRDT")=""
VAR(1,"SUB",15,"SUB")="PICK ENT - Fractures"
VAR(1,"SUB",15,"XADT")=""
VAR(1,"SUB",15,"XRDT")=""
VAR(1,"SUB",16,"SUB")="PICK ENT - Nose and Sinus"
VAR(1,"SUB",16,"XADT")=""
VAR(1,"SUB",16,"XRDT")=""
VAR(1,"SYN",1,"DSC")=136464013
VAR(1,"SYN",1,"TRM")="Acute nasopharyngitis, NOS"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=136465014
VAR(1,"SYN",2,"TRM")="Acute coryza"
VAR(1,"SYN",2,"XADT")=3120301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"SYN",3,"DSC")=136466010
VAR(1,"SYN",3,"TRM")="Acute nasal catarrh"
VAR(1,"SYN",3,"XADT")=3120301.07
VAR(1,"SYN",3,"XRDT")=""
VAR(1,"SYN",4,"DSC")=136467018
VAR(1,"SYN",4,"TRM")="Infective nasopharyngitis, NOS"
VAR(1,"SYN",4,"XADT")=3120301.07
VAR(1,"SYN",4,"XRDT")=""
VAR(1,"SYN",5,"DSC")=136468011
VAR(1,"SYN",5,"TRM")="Acute rhinitis"
VAR(1,"SYN",5,"XADT")=3120301.07
VAR(1,"SYN",5,"XRDT")=""
VAR(1,"SYN",6,"DSC")=136469015
VAR(1,"SYN",6,"TRM")="Infective rhinitis"
VAR(1,"SYN",6,"XADT")=3120301.07
VAR(1,"SYN",6,"XRDT")=""
VAR(1,"SYN",7,"DSC")=136470019
VAR(1,"SYN",7,"TRM")="Acute nasopharyngitis"
VAR(1,"SYN",7,"XADT")=3120301.07
VAR(1,"SYN",7,"XRDT")=""
VAR(1,"SYN",8,"DSC")=136471015
VAR(1,"SYN",8,"TRM")="Infective nasopharyngitis"
VAR(1,"SYN",8,"XADT")=3120301.07
VAR(1,"SYN",8,"XRDT")=""
VAR(1,"SYN",9,"DSC")=200997013
VAR(1,"SYN",9,"TRM")="Head cold"
VAR(1,"SYN",9,"XADT")=3120301.07
VAR(1,"SYN",9,"XRDT")=""
```

```
VAR(1,"SYN",10,"DSC")=504995016
VAR(1,"SYN",10,"TRM")="Acute infective rhinitis"
VAR(1,"SYN",10,"XADT")=3120301.07
VAR(1,"SYN",10,"XRDT")=""
VAR(1,"SYN",11,"DSC")=504996015
VAR(1,"SYN",11,"TRM")="Cold"
VAR(1,"SYN",11,"XADT")=3120301.07
VAR(1,"SYN",11,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101

>
```

The following example will return whether a supplied term is a valid in a given code set and version (utilizing a lookup to the remote DTS server):

```
>S OUT="VAR",IN="COMMON COLD^^^2"

>W $$VALTERM^BSTSAPI(OUT,IN)
2^
GOLD4>ZW @OUT
VAR(1,"CON")=82272006
VAR(1,"DTS")=82272
VAR(1,"FSN","DSC")=823660015
VAR(1,"FSN","TRM")="Common cold (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"ICD",1,"COD")=460
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ICD",1,"XADT")=""
VAR(1,"ICD",1,"XRDT")=""
VAR(1,"ISA",1,"CON")=281794004
VAR(1,"ISA",1,"DTS")=281794
VAR(1,"ISA",1,"TRM")="Viral upper respiratory tract infection (disorder)"
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"PRB","DSC")=136463019
VAR(1,"PRB","TRM")="Common cold"
VAR(1,"PRE","DSC")=136463019
VAR(1,"PRE","TRM")="Common cold"
VAR(1,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM SUPERSET"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SUB",2,"SUB")="IHS Problem List"
VAR(1,"SUB",2,"XADT")=""
VAR(1,"SUB",2,"XRDT")=""
VAR(1,"SUB",3,"SUB")="SRCH Asthma"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="SRCH Audiology"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SUB",5,"SUB")="SRCH Complimentary Medicine"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="SRCH Emergency Department"
VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
```

```
VAR(1,"SUB",7,"SUB")="SRCH ENT"
VAR(1,"SUB",7,"XADT")=""
VAR(1,"SUB",7,"XRDT")=""
VAR(1,"SUB",8,"SUB")="SRCH Family Practice"
VAR(1,"SUB",8,"XADT")=""
VAR(1,"SUB",8,"XRDT")=""
VAR(1,"SUB",9,"SUB")="SRCH Medicine - Inpatient"
VAR(1,"SUB",9,"XADT")=""
VAR(1,"SUB",9,"XRDT")=""
VAR(1,"SUB",10,"SUB")="SRCH Medicine - Urgent Care"
VAR(1,"SUB",10,"XADT")=""
VAR(1,"SUB",10,"XRDT")=""
VAR(1,"SUB",11,"SUB")="SRCH Problem List - Medical"
VAR(1,"SUB",11,"XADT")=""
VAR(1,"SUB",11,"XRDT")=""
VAR(1,"SUB",12,"SUB")="SRCH Respiratory"
VAR(1,"SUB",12,"XADT")=""
VAR(1,"SUB",12,"XRDT")=""
VAR(1,"SUB",13,"SUB")="PICK Family Practice"
VAR(1,"SUB",13,"XADT")=""
VAR(1,"SUB",13,"XRDT")=""
VAR(1,"SUB",14,"SUB")="PICK Medicine - Inpatient"
VAR(1,"SUB",14,"XADT")=""
VAR(1,"SUB",14,"XRDT")=""
VAR(1,"SUB",15,"SUB")="PICK ENT - Fractures"
VAR(1,"SUB",15,"XADT")=""
VAR(1,"SUB",15,"XRDT")=""
VAR(1,"SUB",16,"SUB")="PICK ENT - Nose and Sinus"
VAR(1,"SUB",16,"XADT")=""
VAR(1,"SUB",16,"XRDT")=""
VAR(1,"SYN",1,"DSC")=136464013
VAR(1,"SYN",1,"TRM")="Acute nasopharyngitis, NOS"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=136465014
VAR(1,"SYN",2,"TRM")="Acute coryza"
VAR(1,"SYN",2,"XADT")=3120301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"SYN",3,"DSC")=136466010
VAR(1,"SYN",3,"TRM")="Acute nasal catarrh"
VAR(1,"SYN",3,"XADT")=3120301.07
VAR(1,"SYN",3,"XRDT")=""
VAR(1,"SYN",4,"DSC")=136467018
VAR(1,"SYN",4,"TRM")="Infective nasopharyngitis, NOS"
VAR(1,"SYN",4,"XADT")=3120301.07
VAR(1,"SYN",4,"XRDT")=""
VAR(1,"SYN",5,"DSC")=136468011
VAR(1,"SYN",5,"TRM")="Acute rhinitis"
VAR(1,"SYN",5,"XADT")=3120301.07
VAR(1,"SYN",5,"XRDT")=""
VAR(1,"SYN",6,"DSC")=136469015
VAR(1,"SYN",6,"TRM")="Infective rhinitis"
VAR(1,"SYN",6,"XADT")=3120301.07
VAR(1,"SYN",6,"XRDT")=""
VAR(1,"SYN",7,"DSC")=136470019
VAR(1,"SYN",7,"TRM")="Acute nasopharyngitis"
VAR(1,"SYN",7,"XADT")=3120301.07
VAR(1,"SYN",7,"XRDT")=""
VAR(1,"SYN",8,"DSC")=136471015
VAR(1,"SYN",8,"TRM")="Infective nasopharyngitis"
VAR(1,"SYN",8,"XADT")=3120301.07
```

```
VAR(1,"SYN",8,"XRDT")=""
VAR(1,"SYN",9,"DSC")=200997013
VAR(1,"SYN",9,"TRM")="Head cold"
VAR(1,"SYN",9,"XADT")=3120301.07
VAR(1,"SYN",9,"XRDT")=""
VAR(1,"SYN",10,"DSC")=504995016
VAR(1,"SYN",10,"TRM")="Acute infective rhinitis"
VAR(1,"SYN",10,"XADT")=3120301.07
VAR(1,"SYN",10,"XRDT")=""
VAR(1,"SYN",11,"DSC")=504996015
VAR(1,"SYN",11,"TRM")="Cold"
VAR(1,"SYN",11,"XADT")=3120301.07
VAR(1,"SYN",11,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101

>
```

The following example will return whether the given term is a valid entry in the "GMRA Signs Symptoms" namespace (utilizing a lookup to the local cache):

```
>S OUT="VAR",IN="ABDOMINAL BLOATING^32772"

>W $$VALTERM^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"ASM",1,"CON")=116289008
VAR(1,"ASM",1,"DTS")=116289
VAR(1,"CON")="ABDOMINAL BLOATING"
VAR(1,"DTS")=603
VAR(1,"FSN","DSC")="T334"
VAR(1,"FSN","TRM")="ABDOMINAL BLOATING"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"PRB","DSC")="T334"
VAR(1,"PRB","TRM")="ABDOMINAL BLOATING"
VAR(1,"XADT")=""
VAR(1,"XRDT")=""

>
```

A.8 $$VALSBTRM^BSTSAPI

The following example will return whether a supplied term is in a particular subset (utilizing a local cache lookup):

```
>S OUT="VAR",IN="93565019^IHS Problem List"

>W $$VALSBTRM^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR=1

>
```

A.9 $$VALSBTRMF^BSTSAPI

The following example will return whether a supplied term is in a particular subset:

```
>S OUT="VAR",IN="93565019^IHS Problem List"

>W $$VSBTRMF^BSTSAPI(IN)
1
>
```

A.10 $$CNCLKP^BSTSAPI

The following example retrieves the detail for a concept when the Concept ID is provided, utilizing a local cache listing:

```
>S OUT="VAR",IN="2032001"

>W $$CNCLKP^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"CHD",1,"CON")=""
VAR(1,"CHD",1,"DTS")=230760
VAR(1,"CHD",1,"TRM")="Cytotoxic cerebral edema (disorder)"
VAR(1,"CHD",1,"XADT")=""
VAR(1,"CHD",1,"XRDT")=""
VAR(1,"CHD",2,"CON")=230762003
VAR(1,"CHD",2,"DTS")=230762
VAR(1,"CHD",2,"TRM")="High altitude cerebral edema (disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=230761005
VAR(1,"CHD",3,"DTS")=230761
VAR(1,"CHD",3,"TRM")="Periventricular cerebrospinal fluid edema (disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=""
VAR(1,"CHD",4,"DTS")=230763
VAR(1,"CHD",4,"TRM")="Traumatic cerebral edema (disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=""
VAR(1,"CHD",5,"DTS")=230759
VAR(1,"CHD",5,"TRM")="Vasogenic cerebral edema (disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CON")=2032001
VAR(1,"DTS")=2032
VAR(1,"FSN","DSC")=749395013
VAR(1,"FSN","TRM")="Cerebral edema (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"ICD",1,"COD")=348.5
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ICD",1,"XADT")=""
VAR(1,"ICD",1,"XRDT")=""
VAR(1,"ISA",1,"CON")=118654009
VAR(1,"ISA",1,"DTS")=118654
VAR(1,"ISA",1,"TRM")="Disorder characterized by edema (disorder)"
```

```
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"ISA",2,"CON")=81308009
VAR(1,"ISA",2,"DTS")=81308
VAR(1,"ISA",2,"TRM")="Disorder of brain (disorder)"
VAR(1,"ISA",2,"XADT")=""
VAR(1,"ISA",2,"XRDT")=""
VAR(1,"PRB","DSC")=4508017
VAR(1,"PRB","TRM")="Cerebral edema"
VAR(1,"PRE","DSC")=4508017
VAR(1,"PRE","TRM")="Cerebral edema"
VAR(1,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM SUPERSET"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SUB",2,"SUB")="IHS Problem List"
VAR(1,"SUB",2,"XADT")=""
VAR(1,"SUB",2,"XRDT")=""
VAR(1,"SUB",3,"SUB")="SRCH Emergency Department"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="SRCH Family Practice"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SUB",5,"SUB")="SRCH Medicine - Inpatient"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="SRCH Medicine - Urgent Care"
VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
VAR(1,"SUB",7,"SUB")="SRCH Neurology"
VAR(1,"SUB",7,"XADT")=""
VAR(1,"SUB",7,"XRDT")=""
VAR(1,"SUB",8,"SUB")="SRCH Problem List - Medical"
VAR(1,"SUB",8,"XADT")=""
VAR(1,"SUB",8,"XRDT")=""
VAR(1,"SYN",1,"DSC")=4509013
VAR(1,"SYN",1,"TRM")="Intracranial swelling"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=480612016
VAR(1,"SYN",2,"TRM")="Cerebral oedema"
VAR(1,"SYN",2,"XADT")=3120301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=""

>
```

The following example retrieves the detail for a concept when the Concept ID is provided, utilizing a remote DTS listing:

```
>S OUT="VAR",IN="2032001^^^2"

>W $$CNCLKP^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1,"CHD",1,"CON")=""
VAR(1,"CHD",1,"DTS")=230760
```

```
VAR(1,"CHD",1,"TRM")="Cytotoxic cerebral edema (disorder)"
VAR(1,"CHD",1,"XADT")=""
VAR(1,"CHD",1,"XRDT")=""
VAR(1,"CHD",2,"CON")=230762003
VAR(1,"CHD",2,"DTS")=230762
VAR(1,"CHD",2,"TRM")="High altitude cerebral edema (disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=230761005
VAR(1,"CHD",3,"DTS")=230761
VAR(1,"CHD",3,"TRM")="Periventricular cerebrospinal fluid edema (disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=""
VAR(1,"CHD",4,"DTS")=230763
VAR(1,"CHD",4,"TRM")="Traumatic cerebral edema (disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=""
VAR(1,"CHD",5,"DTS")=230759
VAR(1,"CHD",5,"TRM")="Vasogenic cerebral edema (disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CON")=2032001
VAR(1,"DTS")=2032
VAR(1,"FSN","DSC")=749395013
VAR(1,"FSN","TRM")="Cerebral edema (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"ICD",1,"COD")=348.5
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ICD",1,"XADT")=""
VAR(1,"ICD",1,"XRDT")=""
VAR(1,"ISA",1,"CON")=118654009
VAR(1,"ISA",1,"DTS")=118654
VAR(1,"ISA",1,"TRM")="Disorder characterized by edema (disorder)"
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"ISA",2,"CON")=81308009
VAR(1,"ISA",2,"DTS")=81308
VAR(1,"ISA",2,"TRM")="Disorder of brain (disorder)"
VAR(1,"ISA",2,"XADT")=""
VAR(1,"ISA",2,"XRDT")=""
VAR(1,"PRB","DSC")=4508017
VAR(1,"PRB","TRM")="Cerebral edema"
VAR(1,"PRE","DSC")=4508017
VAR(1,"PRE","TRM")="Cerebral edema"
VAR(1,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM SUPERSET"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SUB",2,"SUB")="IHS Problem List"
VAR(1,"SUB",2,"XADT")=""
VAR(1,"SUB",2,"XRDT")=""
VAR(1,"SUB",3,"SUB")="SRCH Emergency Department"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="SRCH Family Practice"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
```

```
VAR(1,"SUB",5,"SUB")="SRCH Medicine - Inpatient"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="SRCH Medicine - Urgent Care"
VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
VAR(1,"SUB",7,"SUB")="SRCH Neurology"
VAR(1,"SUB",7,"XADT")=""
VAR(1,"SUB",7,"XRDT")=""
VAR(1,"SUB",8,"SUB")="SRCH Problem List - Medical"
VAR(1,"SUB",8,"XADT")=""
VAR(1,"SUB",8,"XRDT")=""
VAR(1,"SYN",1,"DSC")=4509013
VAR(1,"SYN",1,"TRM")="Intracranial swelling"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=480612016
VAR(1,"SYN",2,"TRM")="Cerebral oedema"
VAR(1,"SYN",2,"XADT")=3120301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=""

>
```

The following example retrieves the detail for a concept when the Concept ID is provided (RxNorm Codeset), utilizing a local cache listing:

```
>S OUT="VAR",IN="851732^1552"

>W $$CNCLKP^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"CON")=851732
VAR(1,"DTS")=11328554
VAR(1,"FSN","DSC")=2973307
VAR(1,"FSN","TRM")="Acacia pollen extract"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"PRB","DSC")=2973307
VAR(1,"PRB","TRM")="Acacia pollen extract"
VAR(1,"PRE","DSC")=2973307
VAR(1,"PRE","TRM")="Acacia pollen extract"
VAR(1,"PRE","XADT")=""
VAR(1,"PRE","XRDT")=""
VAR(1,"TTY",1,"TTY")="IN"
VAR(1,"TTY",1,"XADT")=""
VAR(1,"TTY",1,"XRDT")=""
VAR(1,"XADT")=""
VAR(1,"XRDT")=""

>
```

A.11 $$DTSLKP^BSTSAPI

The following example retrieves the detail for a concept when the DTS ID is provided:

```
>S OUT="VAR",IN="8801"

>W $$DTSLKP^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1,"CHD",1,"CON")=""
VAR(1,"CHD",1,"DTS")=426705
VAR(1,"CHD",1,"TRM")="Diabetes mellitus associated with cystic fibrosis
(disorder)"
VAR(1,"CHD",1,"XADT")=""
VAR(1,"CHD",1,"XRDT")=""
VAR(1,"CHD",2,"CON")=""
VAR(1,"CHD",2,"DTS")=59079
VAR(1,"CHD",2,"TRM")="Diabetes mellitus associated with hormonal etiology
(disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=""
VAR(1,"CHD",3,"DTS")=51002
VAR(1,"CHD",3,"TRM")="Diabetes mellitus associated with pancreatic disease
(disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=""
VAR(1,"CHD",4,"DTS")=42954
VAR(1,"CHD",4,"TRM")="Diabetes mellitus associated with receptor
abnormality (disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=5368009
VAR(1,"CHD",5,"DTS")=5368
VAR(1,"CHD",5,"TRM")="Drug-induced diabetes mellitus (disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CHD",6,"CON")=""
VAR(1,"CHD",6,"DTS")=75524
VAR(1,"CHD",6,"TRM")="Malnutrition related diabetes mellitus (disorder)"
VAR(1,"CHD",6,"XADT")=""
VAR(1,"CHD",6,"XRDT")=""
VAR(1,"CHD",7,"CON")=111554008
VAR(1,"CHD",7,"DTS")=111554
VAR(1,"CHD",7,"TRM")="Rare form of secondary diabetes mellitus, due to
disorder other than malnutrition, protein deficiency, pancrea
tic disease, hormonal disease, drugs, receptor abnormality, OR genetic
syndrome (disorder)"
VAR(1,"CHD",7,"XADT")=""
VAR(1,"CHD",7,"XRDT")=""
VAR(1,"CHD",8,"CON")=""
VAR(1,"CHD",8,"DTS")=237601
VAR(1,"CHD",8,"TRM")="Secondary endocrine diabetes mellitus (disorder)"
VAR(1,"CHD",8,"XADT")=""
VAR(1,"CHD",8,"XRDT")=""
VAR(1,"CHD",9,"CON")=190447002
VAR(1,"CHD",9,"DTS")=190447
VAR(1,"CHD",9,"TRM")="Steroid-induced diabetes (disorder)"
```

```
VAR(1,"CHD",9,"XADT")=""
VAR(1,"CHD",9,"XRDT")=""
VAR(1,"CON")=8801005
VAR(1,"DTS")=8801
VAR(1,"FSN","DSC")=830605015
VAR(1,"FSN","TRM")="Secondary diabetes mellitus (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"ICD",1,"COD")="250.80"
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ICD",1,"XADT")=3120301.07
VAR(1,"ICD",1,"XRDT")=3500101.19
VAR(1,"ISA",1,"CON")=73211009
VAR(1,"ISA",1,"DTS")=73211
VAR(1,"ISA",1,"TRM")="Diabetes mellitus (disorder)"
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"PRB","DSC")=15518018
VAR(1,"PRB","TRM")="Secondary diabetes mellitus"
VAR(1,"PRE","DSC")=15518018
VAR(1,"PRE","TRM")="Secondary diabetes mellitus"
VAR(1,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"SUB",1,"SUB")="IHS Problem List"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SYN",1,"DSC")=15519014
VAR(1,"SYN",1,"TRM")="Secondary diabetes mellitus, NOS"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101

>
```

A.12 $$DSCLKP^BSTSAPI

The following example retrieves the detail for the associated concept when the Description ID for a term is provided (utilizing a lookup to the local cache):

```
>S OUT="VAR",IN="830605015"

>W $$DSCLKP^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"CHD",1,"CON")=426705001
VAR(1,"CHD",1,"DTS")=426705
VAR(1,"CHD",1,"TRM")="Diabetes mellitus associated with cystic fibrosis
(disorder)"
VAR(1,"CHD",1,"XADT")=""
VAR(1,"CHD",1,"XRDT")=""
VAR(1,"CHD",2,"CON")=59079001
VAR(1,"CHD",2,"DTS")=59079
VAR(1,"CHD",2,"TRM")="Diabetes mellitus associated with hormonal etiology
(disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=51002006
VAR(1,"CHD",3,"DTS")=51002
```

```
VAR(1,"CHD",3,"TRM")="Diabetes mellitus associated with pancreatic disease
(disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=42954008
VAR(1,"CHD",4,"DTS")=42954
VAR(1,"CHD",4,"TRM")="Diabetes mellitus associated with receptor
abnormality (disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=5368009
VAR(1,"CHD",5,"DTS")=5368
VAR(1,"CHD",5,"TRM")="Drug-induced diabetes mellitus (disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CHD",6,"CON")=75524006
VAR(1,"CHD",6,"DTS")=75524
VAR(1,"CHD",6,"TRM")="Malnutrition related diabetes mellitus (disorder)"
VAR(1,"CHD",6,"XADT")=""
VAR(1,"CHD",6,"XRDT")=""
VAR(1,"CHD",7,"CON")=111554008
VAR(1,"CHD",7,"DTS")=111554
VAR(1,"CHD",7,"TRM")="Rare form of secondary diabetes mellitus, due to
disorder other than malnutrition, protein deficiency, pancreatic disease,
hormonal disease, drugs, receptor abnormality, OR genetic syndrome
(disorder)"
VAR(1,"CHD",7,"XADT")=""
VAR(1,"CHD",7,"XRDT")=""
VAR(1,"CHD",8,"CON")=237601000
VAR(1,"CHD",8,"DTS")=237601
VAR(1,"CHD",8,"TRM")="Secondary endocrine diabetes mellitus (disorder)"
VAR(1,"CHD",8,"XADT")=""
VAR(1,"CHD",8,"XRDT")=""
VAR(1,"CHD",9,"CON")=190447002
VAR(1,"CHD",9,"DTS")=190447
VAR(1,"CHD",9,"TRM")="Steroid-induced diabetes (disorder)"
VAR(1,"CHD",9,"XADT")=""
VAR(1,"CHD",9,"XRDT")=""
VAR(1,"CON")=8801005
VAR(1,"DTS")=8801
VAR(1,"FSN","DSC")=830605015
VAR(1,"FSN","TRM")="Secondary diabetes mellitus (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"ICD",1,"COD")="250.80"
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ICD",1,"XADT")=""
VAR(1,"ICD",1,"XRDT")=""
VAR(1,"ISA",1,"CON")=73211009
VAR(1,"ISA",1,"DTS")=73211
VAR(1,"ISA",1,"TRM")="Diabetes mellitus (disorder)"
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"PRB","DSC")=830605015
VAR(1,"PRB","TRM")="Secondary diabetes mellitus (disorder)"
VAR(1,"PRE","DSC")=15518018
VAR(1,"PRE","TRM")="Secondary diabetes mellitus"
VAR(1,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"SUB",1,"SUB")="PXRM DIABETES"
VAR(1,"SUB",1,"XADT")=""
```

```
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SUB",2,"SUB")="IHS PROBLEM SUPERSET"
VAR(1,"SUB",2,"XADT")=""
VAR(1,"SUB",2,"XRDT")=""
VAR(1,"SUB",3,"SUB")="IHS Problem List"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="SRCH Diabetes"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SYN",1,"DSC")=15519014
VAR(1,"SYN",1,"TRM")="Secondary diabetes mellitus, NOS"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101

>
```

The following example retrieves the detail for the associated concept when the Description ID for a term is provided (utilizing a remote DTS server lookup):

```
>S OUT="VAR",IN="830605015^^2"

>W $$DSCLKP^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1,"CHD",1,"CON")=426705001
VAR(1,"CHD",1,"DTS")=426705
VAR(1,"CHD",1,"TRM")="Diabetes mellitus associated with cystic fibrosis
(disorder)"
VAR(1,"CHD",1,"XADT")=""
VAR(1,"CHD",1,"XRDT")=""
VAR(1,"CHD",2,"CON")=59079001
VAR(1,"CHD",2,"DTS")=59079
VAR(1,"CHD",2,"TRM")="Diabetes mellitus associated with hormonal etiology
(disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=51002006
VAR(1,"CHD",3,"DTS")=51002
VAR(1,"CHD",3,"TRM")="Diabetes mellitus associated with pancreatic disease
(disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=42954008
VAR(1,"CHD",4,"DTS")=42954
VAR(1,"CHD",4,"TRM")="Diabetes mellitus associated with receptor
abnormality (disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=5368009
VAR(1,"CHD",5,"DTS")=5368
VAR(1,"CHD",5,"TRM")="Drug-induced diabetes mellitus (disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CHD",6,"CON")=75524006
VAR(1,"CHD",6,"DTS")=75524
VAR(1,"CHD",6,"TRM")="Malnutrition related diabetes mellitus (disorder)"
VAR(1,"CHD",6,"XADT")=""
```

```
VAR(1,"CHD",6,"XRDT")=""
VAR(1,"CHD",7,"CON")=111554008
VAR(1,"CHD",7,"DTS")=111554
VAR(1,"CHD",7,"TRM")="Rare form of secondary diabetes mellitus, due to
disorder other than malnutrition, protein deficiency, pancreatic disease,
hormonal disease, drugs, receptor abnormality, OR genetic syndrome
(disorder)"
VAR(1,"CHD",7,"XADT")=""
VAR(1,"CHD",7,"XRDT")=""
VAR(1,"CHD",8,"CON")=237601000
VAR(1,"CHD",8,"DTS")=237601
VAR(1,"CHD",8,"TRM")="Secondary endocrine diabetes mellitus (disorder)"
VAR(1,"CHD",8,"XADT")=""
VAR(1,"CHD",8,"XRDT")=""
VAR(1,"CHD",9,"CON")=190447002
VAR(1,"CHD",9,"DTS")=190447
VAR(1,"CHD",9,"TRM")="Steroid-induced diabetes (disorder)"
VAR(1,"CHD",9,"XADT")=""
VAR(1,"CHD",9,"XRDT")=""
VAR(1,"CON")=8801005
VAR(1,"DTS")=8801
VAR(1,"FSN","DSC")=830605015
VAR(1,"FSN","TRM")="Secondary diabetes mellitus (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"ICD",1,"COD")="250.80"
VAR(1,"ICD",1,"TYP")="ICD"
VAR(1,"ICD",1,"XADT")=""
VAR(1,"ICD",1,"XRDT")=""
VAR(1,"ISA",1,"CON")=73211009
VAR(1,"ISA",1,"DTS")=73211
VAR(1,"ISA",1,"TRM")="Diabetes mellitus (disorder)"
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"PRB","DSC")=830605015
VAR(1,"PRB","TRM")="Secondary diabetes mellitus (disorder)"
VAR(1,"PRE","DSC")=15518018
VAR(1,"PRE","TRM")="Secondary diabetes mellitus"
VAR(1,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"SUB",1,"SUB")="PXRM DIABETES"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SUB",2,"SUB")="IHS PROBLEM SUPERSET"
VAR(1,"SUB",2,"XADT")=""
VAR(1,"SUB",2,"XRDT")=""
VAR(1,"SUB",3,"SUB")="IHS Problem List"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="SRCH Diabetes"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SYN",1,"DSC")=15519014
VAR(1,"SYN",1,"TRM")="Secondary diabetes mellitus, NOS"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=""

>
```

The following example retrieves the detail for the associated concept when the Description ID for a term is provided (UNII Codeset). A lookup to the local cache is getting utilized:

```
>S OUT="VAR",IN="5C5403N26O.316825^5180"

>W $$DSCLKP^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"CON")="5C5403N26O"
VAR(1,"DTS")=57
VAR(1,"FSN","DSC")="5C5403N26O.57"
VAR(1,"FSN","TRM")="ACACIA"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"PRB","DSC")="5C5403N26O.316825"
VAR(1,"PRB","TRM")="ACACIA POWDER [VANDF]"
VAR(1,"SYN",1,"DSC")="5C5403N26O.8755"
VAR(1,"SYN",1,"TRM")="ACACIA GUM"
VAR(1,"SYN",1,"XADT")=""
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")="5C5403N26O.8756"
VAR(1,"SYN",2,"TRM")="ACACIA SENEGAL RESIN"
VAR(1,"SYN",2,"XADT")=""
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"SYN",3,"DSC")="5C5403N26O.8757"
VAR(1,"SYN",3,"TRM")="ACACIA VEREK RESIN"
VAR(1,"SYN",3,"XADT")=""
VAR(1,"SYN",3,"XRDT")=""
VAR(1,"SYN",4,"DSC")="5C5403N26O.8758"
VAR(1,"SYN",4,"TRM")="GUM ACACIA"
VAR(1,"SYN",4,"XADT")=""
VAR(1,"SYN",4,"XRDT")=""
VAR(1,"SYN",5,"DSC")="5C5403N26O.8759"
VAR(1,"SYN",5,"TRM")="GUM ARABIC"
VAR(1,"SYN",5,"XADT")=""
VAR(1,"SYN",5,"XRDT")=""
VAR(1,"SYN",6,"DSC")="5C5403N26O.21188"
VAR(1,"SYN",6,"TRM")="ACACIA ARABICA"
VAR(1,"SYN",6,"XADT")=""
VAR(1,"SYN",6,"XRDT")=""
VAR(1,"SYN",7,"DSC")="5C5403N26O.21189"
VAR(1,"SYN",7,"TRM")="ACACIA CIRCUMMARGINATA RESIN"
VAR(1,"SYN",7,"XADT")=""
VAR(1,"SYN",7,"XRDT")=""
VAR(1,"SYN",8,"DSC")="5C5403N26O.21190"
VAR(1,"SYN",8,"TRM")="ACACIA CUFODONTII RESIN"
VAR(1,"SYN",8,"XADT")=""
VAR(1,"SYN",8,"XRDT")=""
VAR(1,"SYN",9,"DSC")="5C5403N26O.21191"
VAR(1,"SYN",9,"TRM")="ACACIA MUCILAGE"
VAR(1,"SYN",9,"XADT")=""
VAR(1,"SYN",9,"XRDT")=""
VAR(1,"SYN",10,"DSC")="5C5403N26O.21192"
VAR(1,"SYN",10,"TRM")="ACACIA OXYOSPRION RESIN"
VAR(1,"SYN",10,"XADT")=""
VAR(1,"SYN",10,"XRDT")=""
VAR(1,"SYN",11,"DSC")="5C5403N26O.21193"
VAR(1,"SYN",11,"TRM")="ACACIA RUPESTRIS RESIN"
VAR(1,"SYN",11,"XADT")=""
VAR(1,"SYN",11,"XRDT")=""
```

```
VAR(1,"SYN",12,"DSC")="5C5403N26O.21194"
VAR(1,"SYN",12,"TRM")="ACACIA SPINOSA RESIN"
VAR(1,"SYN",12,"XADT")=""
VAR(1,"SYN",12,"XRDT")=""
VAR(1,"SYN",13,"DSC")="5C5403N26O.21195"
VAR(1,"SYN",13,"TRM")="ACACIA VOLKII RESIN"
VAR(1,"SYN",13,"XADT")=""
VAR(1,"SYN",13,"XRDT")=""
VAR(1,"SYN",14,"DSC")="5C5403N26O.21196"
VAR(1,"SYN",14,"TRM")="ACACIAE GUMMI"
VAR(1,"SYN",14,"XADT")=""
VAR(1,"SYN",14,"XRDT")=""
VAR(1,"SYN",15,"DSC")="5C5403N26O.21197"
VAR(1,"SYN",15,"TRM")="GUM SENEGAL"
VAR(1,"SYN",15,"XADT")=""
VAR(1,"SYN",15,"XRDT")=""
VAR(1,"SYN",16,"DSC")="5C5403N26O.21198"
VAR(1,"SYN",16,"TRM")="GUMMI ARABICUM"
VAR(1,"SYN",16,"XADT")=""
VAR(1,"SYN",16,"XRDT")=""
VAR(1,"SYN",17,"DSC")="5C5403N26O.21199"
VAR(1,"SYN",17,"TRM")="KHER RESIN"
VAR(1,"SYN",17,"XADT")=""
VAR(1,"SYN",17,"XRDT")=""
VAR(1,"SYN",18,"DSC")="5C5403N26O.21200"
VAR(1,"SYN",18,"TRM")="MIMOSA SENEGAL RESIN"
VAR(1,"SYN",18,"XADT")=""
VAR(1,"SYN",18,"XRDT")=""
VAR(1,"SYN",19,"DSC")="5C5403N26O.21201"
VAR(1,"SYN",19,"TRM")="RFAUDRAKSHA RESIN"
VAR(1,"SYN",19,"XADT")=""
VAR(1,"SYN",19,"XRDT")=""
VAR(1,"SYN",20,"DSC")="5C5403N26O.21202"
VAR(1,"SYN",20,"TRM")="SENEGAL GUM"
VAR(1,"SYN",20,"XADT")=""
VAR(1,"SYN",20,"XRDT")=""
VAR(1,"SYN",21,"DSC")="5C5403N26O.21203"
VAR(1,"SYN",21,"TRM")="SENEGALIA SENEGAL RESIN"
VAR(1,"SYN",21,"XADT")=""
VAR(1,"SYN",21,"XRDT")=""
VAR(1,"SYN",22,"DSC")="5C5403N26O.21204"
VAR(1,"SYN",22,"TRM")="THORNY ACACIA RESIN"
VAR(1,"SYN",22,"XADT")=""
VAR(1,"SYN",22,"XRDT")=""
VAR(1,"SYN",23,"DSC")="5C5403N26O.87148"
VAR(1,"SYN",23,"TRM")="ACACIA POWDER"
VAR(1,"SYN",23,"XADT")=""
VAR(1,"SYN",23,"XRDT")=""
VAR(1,"SYN",24,"DSC")="5C5403N26O.87149"
VAR(1,"SYN",24,"TRM")="ACACIA SENEGAL GUM EXTRACT"
VAR(1,"SYN",24,"XADT")=""
VAR(1,"SYN",24,"XRDT")=""
VAR(1,"SYN",25,"DSC")="5C5403N26O.87150"
VAR(1,"SYN",25,"TRM")="ACACIA ARABICA [HPUS]"
VAR(1,"SYN",25,"XADT")=""
VAR(1,"SYN",25,"XRDT")=""
VAR(1,"SYN",26,"DSC")="5C5403N26O.87151"
VAR(1,"SYN",26,"TRM")="ACACIA GUM [FHFI]"
VAR(1,"SYN",26,"XADT")=""
VAR(1,"SYN",26,"XRDT")=""
VAR(1,"SYN",27,"DSC")="5C5403N26O.87152"
```

```
VAR(1,"SYN",27,"TRM")="ACACIA, SPRAY-DRIED"
VAR(1,"SYN",27,"XADT")=""
VAR(1,"SYN",27,"XRDT")=""
VAR(1,"SYN",28,"DSC")="5C5403N26O.87153"
VAR(1,"SYN",28,"TRM")="ACACIA, SPRAY-DRIED [EP]"
VAR(1,"SYN",28,"XADT")=""
VAR(1,"SYN",28,"XRDT")=""
VAR(1,"SYN",29,"DSC")="5C5403N26O.87154"
VAR(1,"SYN",29,"TRM")="ARABIC GUM"
VAR(1,"SYN",29,"XADT")=""
VAR(1,"SYN",29,"XRDT")=""
VAR(1,"SYN",30,"DSC")="5C5403N26O.165019"
VAR(1,"SYN",30,"TRM")="ACACIA SENEGAL GUM"
VAR(1,"SYN",30,"XADT")=""
VAR(1,"SYN",30,"XRDT")=""
VAR(1,"SYN",31,"DSC")="5C5403N26O.165020"
VAR(1,"SYN",31,"TRM")="ACACIA SENEGAL GUM EXTRACT [INCI]"
VAR(1,"SYN",31,"XADT")=""
VAR(1,"SYN",31,"XRDT")=""
VAR(1,"SYN",32,"DSC")="5C5403N26O.165021"
VAR(1,"SYN",32,"TRM")="ACACIA SENEGAL GUM [INCI]"
VAR(1,"SYN",32,"XADT")=""
VAR(1,"SYN",32,"XRDT")=""
VAR(1,"SYN",33,"DSC")="5C5403N26O.165022"
VAR(1,"SYN",33,"TRM")="ACACIA [MART.]"
VAR(1,"SYN",33,"XADT")=""
VAR(1,"SYN",33,"XRDT")=""
VAR(1,"SYN",34,"DSC")="5C5403N26O.165023"
VAR(1,"SYN",34,"TRM")="ACACIA [MI]"
VAR(1,"SYN",34,"XADT")=""
VAR(1,"SYN",34,"XRDT")=""
VAR(1,"SYN",35,"DSC")="5C5403N26O.165024"
VAR(1,"SYN",35,"TRM")="GUM ARABIC [FCC]"
VAR(1,"SYN",35,"XADT")=""
VAR(1,"SYN",35,"XRDT")=""
VAR(1,"SYN",36,"DSC")="5C5403N26O.165025"
VAR(1,"SYN",36,"TRM")="ACACIA MUCILAGE [II]"
VAR(1,"SYN",36,"XADT")=""
VAR(1,"SYN",36,"XRDT")=""
VAR(1,"SYN",37,"DSC")="5C5403N26O.165026"
VAR(1,"SYN",37,"TRM")="ACACIA [II]"
VAR(1,"SYN",37,"XADT")=""
VAR(1,"SYN",37,"XRDT")=""
VAR(1,"SYN",38,"DSC")="5C5403N26O.316815"
VAR(1,"SYN",38,"TRM")="AE-GUM, ARABIC"
VAR(1,"SYN",38,"XADT")=""
VAR(1,"SYN",38,"XRDT")=""
VAR(1,"SYN",39,"DSC")="5C5403N26O.316816"
VAR(1,"SYN",39,"TRM")="AE-GUM, ACACIA"
VAR(1,"SYN",39,"XADT")=""
VAR(1,"SYN",39,"XRDT")=""
VAR(1,"SYN",40,"DSC")="5C5403N26O.316817"
VAR(1,"SYN",40,"TRM")="ALLERGENIC EXTRACT- GUM, ACACIA OR ARABIC ACACIA
SENEGAL"
VAR(1,"SYN",40,"XADT")=""
VAR(1,"SYN",40,"XRDT")=""
VAR(1,"SYN",41,"DSC")="5C5403N26O.316818"
VAR(1,"SYN",41,"TRM")="ARABIC GUM ALLERGENIC EXTRACT"
VAR(1,"SYN",41,"XADT")=""
VAR(1,"SYN",41,"XRDT")=""
VAR(1,"SYN",42,"DSC")="5C5403N26O.316819"
```

```
VAR(1,"SYN",42,"TRM")="ACACIA [HSDB]"
VAR(1,"SYN",42,"XADT")=""
VAR(1,"SYN",42,"XRDT")=""
VAR(1,"SYN",43,"DSC")="5C5403N26O.316820"
VAR(1,"SYN",43,"TRM")="ACACIA SENEGAL RESIN [WHO-DD]"
VAR(1,"SYN",43,"XADT")=""
VAR(1,"SYN",43,"XRDT")=""
VAR(1,"SYN",44,"DSC")="5C5403N26O.316821"
VAR(1,"SYN",44,"TRM")="ACACIA SENEGAL GUM [WHO-DD]"
VAR(1,"SYN",44,"XADT")=""
VAR(1,"SYN",44,"XRDT")=""
VAR(1,"SYN",45,"DSC")="5C5403N26O.316822"
VAR(1,"SYN",45,"TRM")="PLANTS AND PLANT PARTS, GUM, ACACIA OR ARABIC ACACIA
SENE
GAL"
VAR(1,"SYN",45,"XADT")=""
VAR(1,"SYN",45,"XRDT")=""
VAR(1,"SYN",46,"DSC")="5C5403N26O.316823"
VAR(1,"SYN",46,"TRM")="GUM ARABIC [VANDF]"
VAR(1,"SYN",46,"XADT")=""
VAR(1,"SYN",46,"XRDT")=""
VAR(1,"SYN",47,"DSC")="5C5403N26O.316824"
VAR(1,"SYN",47,"TRM")="ACACIA [VANDF]"
VAR(1,"SYN",47,"XADT")=""
VAR(1,"SYN",47,"XRDT")=""
VAR(1,"SYN",48,"DSC")="5C5403N26O.316825"
VAR(1,"SYN",48,"TRM")="ACACIA POWDER [VANDF]"
VAR(1,"SYN",48,"XADT")=""
VAR(1,"SYN",48,"XRDT")=""
VAR(1,"XADT")=""
VAR(1,"XRDT")=""

>
```

A.13 $$DESC^BSTSAPI

The following example returns the Concept ID, the Description Term, and the mapped ICD9 codes of the concept when a Description ID is provided (utilizing a local cache lookup):

```
>W $$DESC^BSTSAPI(459311019)
314903002^Type II diabetes mellitus with arthropathy^250.00;716.90
>
```

A.14 $$CONC^BSTSAPI

The following example returns the Fully Specified Name, its associated Description ID, the Preferred Term and its associated Description ID, and the mapped ICD9 codes when a Concept ID is provided (utilizing a local cache lookup):

```
>W $$CONC^BSTSAPI(314903002)
711739010^Type II diabetes mellitus with arthropathy
(disorder)^459311019^Type II diabetes mellitus with
arthropathy^250.00;716.90
>
```

A.15 $$SUBLST^BSTSAPI

The following example shows the concepts found in the "SRCH Preventive Care" subset, using a local cache lookup:

```
>S OUT="VAR",IN="SRCH Preventive Care"

>W $$SUBLST^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1)="109564008^174168014^Dental caries associated with enamel
hypomineralization"
VAR(2)="95253003^157778013^Secondary dental caries associated with local or
systemic factors"
VAR(3)="196298000^301925015^Acute dentine dental caries"
VAR(4)="442551007^2820469019^Dental caries extending into dentine"
VAR(5)="196301001^301928018^Acute enamel dental caries"
VAR(6)="80353004^133324017^Enamel caries"
VAR(7)="191845006^295200014^Amphetamine or psychostimulant dependence in
remission"
VAR(8)="191843004^295198015^Amphetamine or psychostimulant dependence,
continuous"
VAR(9)="191844005^295199011^Amphetamine or psychostimulant dependence,
episodic"
VAR(10)="169595006^263136014^A/N care: H/O child abuse"
VAR(11)="80753001^133949013^Arrested dental caries"
VAR(12)="80967001^134311013^Dental caries"
VAR(13)="231462006^346928016^Barbiturate abuse"
VAR(14)="442231009^2819937013^Caries involving multiple surfaces of tooth"
VAR(15)="109577004^174181019^Primary dental caries, multisurface origin"
VAR(16)="109578009^174182014^Caries of infancy"
VAR(17)="109581004^174187015^Caries of infancy associated with bottle
feeding"
VAR(18)="109580003^174185011^Caries of infancy associated with breast
feeding"
VAR(19)="109579001^174184010^Caries of infancy, indeterminate origin"
VAR(20)="30512007^51063015^Cementum caries"
VAR(21)="95922009^158895013^Child sex abuse"
VAR(22)="371779005^1210375015^Physical child abuse"
VAR(23)="161062006^251124011^Child abuse in family"
VAR(24)="397940009^1777529016^Victim of child abuse"
VAR(25)="196299008^301926019^Chronic dentine dental caries"
VAR(26)="196302008^301929014^Chronic enamel dental caries"
VAR(27)="5170009^9665013^Complex dental caries"
VAR(28)="191819002^295154015^Continuous opioid dependence"
VAR(29)="109566005^174170017^Dental caries associated with enamel
hypoplasia"
VAR(30)="109568006^174172013^Dental caries secondary to developmental
defects of tooth structure"
VAR(31)="196305005^301932012^Odontoclasia"
VAR(32)="163152009^254264018^O/E - dental caries"
VAR(33)="234976000^352147013^Rampant dental caries"
VAR(34)="95249000^157770018^Salivary dysfunction dental caries"
VAR(35)="95254009^157779017^Secondary dental caries"
VAR(36)="109569003^174173015^Dental caries secondary to acquired defects of
tooth structure"
VAR(37)="95247003^157768010^Salivary dysfunction caries secondary to
medication"
VAR(38)="15733007^26656015^Incipient enamel caries"
VAR(39)="109572005^174176011^Primary dental caries, cervical origin"
```

```
VAR(40)="109571003^174175010^Primary dental caries, indeterminate origin"
VAR(41)="109574006^174178012^Primary dental caries, nonproximal smooth
surface origin"
VAR(42)="109575007^174179016^Primary dental caries, pit and fissure origin"
VAR(43)="109573000^174177019^Primary dental caries, proximal smooth surface
origin"
VAR(44)="109576008^174180018^Primary dental caries, root surface origin"
VAR(45)="191820008^295155019^Episodic opioid dependence"
VAR(46)="191827006^295170018^Hypnotic or anxiolytic dependence in
remission"
VAR(47)="191825003^295168010^Hypnotic or anxiolytic dependence, continuous"
VAR(48)="191826002^295169019^Hypnotic or anxiolytic dependence, episodic"
VAR(49)="445272000^2870751012^Late effect of child abuse"
VAR(50)="191821007^295156018^Opioid dependence in remission"
VAR(51)="95929000^158908017^Psychologically abused elder"
VAR(52)="95248008^157769019^Salivary dysfunction caries secondary to
radiation therapy"
VAR(53)="160873007^250814011^Removed - child abuse register"
VAR(54)="95246007^157767017^Salivary dysfunction caries secondary to aging"
VAR(55)="95252008^157777015^Secondary dental caries associated with failed
or defective dental restoration"
VAR(56)="162596006^253494019^Suspected child abuse"

>
```

The following example shows the concepts found in the "SRCH Preventive Care" subset, using a remote DTS lookup:

```
>S OUT="VAR",IN="SRCH Preventive Care^^2"

>W $$SUBLST^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1)="196298000^301925015^Acute dentine dental caries"
VAR(2)="196301001^301928018^Acute enamel dental caries"
VAR(3)="191845006^295200014^Amphetamine or psychostimulant dependence in
remission"
VAR(4)="191843004^295198015^Amphetamine or psychostimulant dependence,
continuous"
VAR(5)="191844005^295199011^Amphetamine or psychostimulant dependence,
episodic"
VAR(6)="169595006^263136014^A/N care: H/O child abuse"
VAR(7)="80753001^133949013^Arrested dental caries"
VAR(8)="231462006^346928016^Barbiturate abuse"
VAR(9)="442231009^2819937013^Caries involving multiple surfaces of tooth"
VAR(10)="109578009^174182014^Caries of infancy"
VAR(11)="109581004^174187015^Caries of infancy associated with bottle
feeding"
VAR(12)="109580003^174185011^Caries of infancy associated with breast
feeding"
VAR(13)="109579001^174184010^Caries of infancy, indeterminate origin"
VAR(14)="30512007^51063015^Cementum caries"
VAR(15)="161062006^251124011^Child abuse in family"
VAR(16)="95922009^158895013^Child sex abuse"
VAR(17)="196299008^301926019^Chronic dentine dental caries"
VAR(18)="196302008^301929014^Chronic enamel dental caries"
VAR(19)="5170009^9665013^Complex dental caries"
VAR(20)="191819002^295154015^Continuous opioid dependence"
VAR(21)="80967001^134311013^Dental caries"
```

```
VAR(22)="109564008^174168014^Dental caries associated with enamel
hypomineralization"
VAR(23)="109566005^174170017^Dental caries associated with enamel
hypoplasia"
VAR(24)="442551007^2820469019^Dental caries extending into dentine"
VAR(25)="109569003^174173015^Dental caries secondary to acquired defects of
tooth structure"
VAR(26)="109568006^174172013^Dental caries secondary to developmental
defects of tooth structure"
VAR(27)="80353004^133324017^Enamel caries"
VAR(28)="191820008^295155019^Episodic opioid dependence"
VAR(29)="191827006^295170018^Hypnotic or anxiolytic dependence in
remission"
VAR(30)="191825003^295168010^Hypnotic or anxiolytic dependence, continuous"
VAR(31)="191826002^295169019^Hypnotic or anxiolytic dependence, episodic"
VAR(32)="15733007^26656015^Incipient enamel caries"
VAR(33)="445272000^2870751012^Late effect of child abuse"
VAR(34)="196305005^301932012^Odontoclasia"
VAR(35)="163152009^254264018^O/E - dental caries"
VAR(36)="191821007^295156018^Opioid dependence in remission"
VAR(37)="371779005^1210375015^Physical child abuse"
VAR(38)="109572005^174176011^Primary dental caries, cervical origin"
VAR(39)="109571003^174175010^Primary dental caries, indeterminate origin"
VAR(40)="109577004^174181019^Primary dental caries, multisurface origin"
VAR(41)="109574006^174178012^Primary dental caries, nonproximal smooth
surface origin"
VAR(42)="109575007^174179016^Primary dental caries, pit and fissure origin"
VAR(43)="109573000^174177019^Primary dental caries, proximal smooth surface
origin"
VAR(44)="109576008^174180018^Primary dental caries, root surface origin"
VAR(45)="95929000^158908017^Psychologically abused elder"
VAR(46)="234976000^352147013^Rampant dental caries"
VAR(47)="160873007^250814011^Removed - child abuse register"
VAR(48)="95246007^157767017^Salivary dysfunction caries secondary to aging"
VAR(49)="95247003^157768010^Salivary dysfunction caries secondary to
medication"
VAR(50)="95248008^157769019^Salivary dysfunction caries secondary to
radiation therapy"
VAR(51)="95249000^157770018^Salivary dysfunction dental caries"
VAR(52)="95254009^157779017^Secondary dental caries"
VAR(53)="95252008^157777015^Secondary dental caries associated with failed
or defective dental restoration"
VAR(54)="95253003^157778013^Secondary dental caries associated with local
or systemic factors"
VAR(55)="162596006^253494019^Suspected child abuse"
VAR(56)="397940009^1777529016^Victim of child abuse"

>
```

A.16 $$ICD2SMD^BSTSAPI

The following example shows the first five records and the last five records returned on an ICD2SMD API call (returning SNOMED concepts mapped to ICD9 code 250.00"):

```
>S OUT="VAR",IN="250.00"

>W $$ICD2SMD^BSTSAPI(OUT,IN)
```

```
2^
>ZW @OUT
VAR(1,"CHD",1,"CON")=190331003
VAR(1,"CHD",1,"DTS")=190331
VAR(1,"CHD",1,"TRM")="Diabetes mellitus, adult onset, with hyperosmolar
coma (disorder)"
VAR(1,"CHD",2,"CON")=190330002
VAR(1,"CHD",2,"DTS")=190330
VAR(1,"CHD",2,"TRM")="Diabetes mellitus, juvenile type, with hyperosmolar
coma (disorder)"
VAR(1,"CHD",3,"CON")=""
VAR(1,"CHD",3,"DTS")=237621
VAR(1,"CHD",3,"TRM")="Diabetic severe hyperglycemia (disorder)"
VAR(1,"CHD",4,"CON")=441656006
VAR(1,"CHD",4,"DTS")=441656
VAR(1,"CHD",4,"TRM")="Hyperglycemic crisis in diabetes mellitus (disorder)"
VAR(1,"CHD",5,"CON")=428896009
VAR(1,"CHD",5,"DTS")=428896
VAR(1,"CHD",5,"TRM")="Hyperosmolality due to uncontrolled type 1 diabetes
mellitus (disorder)"
VAR(1,"CHD",6,"CON")=421725003
VAR(1,"CHD",6,"DTS")=421725
VAR(1,"CHD",6,"TRM")="Hypoglycemic coma in diabetes mellitus (disorder)"
VAR(1,"CHD",7,"CON")=190411003
VAR(1,"CHD",7,"DTS")=190411
VAR(1,"CHD",7,"TRM")="Malnutrition-related diabetes mellitus with multiple
complications (disorder)"
VAR(1,"CHD",8,"CON")=441628001
VAR(1,"CHD",8,"DTS")=441628
VAR(1,"CHD",8,"TRM")="Multiple complications due to diabetes mellitus
(disorder)"
VAR(1,"CON")=237620003
VAR(1,"DTS")=237620
VAR(1,"FSN","DSC")=626375013
VAR(1,"FSN","TRM")="Abnormal metabolic state in diabetes mellitus
(disorder)"
VAR(1,"ISA",1,"CON")=74627003
VAR(1,"ISA",1,"DTS")=74627
VAR(1,"ISA",1,"TRM")="Diabetic complication (disorder)"
VAR(1,"ISA",2,"CON")=75934005
VAR(1,"ISA",2,"DTS")=75934
VAR(1,"ISA",2,"TRM")="Metabolic disease (disorder)"
VAR(1,"PRB","DSC")=356119011
VAR(1,"PRB","TRM")="Abnormal metabolic state in diabetes mellitus"
VAR(1,"SUB",1,"SUB")="IHS Problem List"
VAR(1,"SUB",2,"SUB")="PXRM DIABETES"
VAR(1,"SUB",3,"SUB")="PICK Womens Health"
VAR(1,"SUB",4,"SUB")="IHS PROBLEM SUPERSET"
VAR(2,"CON")=237610008
VAR(2,"DTS")=237610
VAR(2,"FSN","DSC")=626364014
VAR(2,"FSN","TRM")="Acrorenal field defect, ectodermal dysplasia, and
lipoatrophic diabetes (disorder)"
VAR(2,"ISA",1,"CON")=""
VAR(2,"ISA",1,"DTS")=17346
VAR(2,"ISA",1,"TRM")="Disorder of endocrine pancreas (disorder)"
VAR(2,"ISA",2,"CON")=71325002
VAR(2,"ISA",2,"DTS")=71325
VAR(2,"ISA",2,"TRM")="Lipodystrophy (disorder)"
VAR(2,"ISA",3,"CON")=""
VAR(2,"ISA",3,"DTS")=281867
```

```
VAR(2,"ISA",3,"TRM")="Multisystem disorder (disorder)"
VAR(2,"PRB","DSC")=356097011
VAR(2,"PRB","TRM")="Acrorenal field defect, ectodermal dysplasia, and
lipoatrophic diabetes"
VAR(2,"SUB",1,"SUB")="PXRM DIABETES"
VAR(2,"SUB",2,"SUB")="PICK Public Health Nursing"
VAR(2,"SUB",3,"SUB")="PICK Womens Health"
VAR(3,"CHD",1,"CON")=290002008
VAR(3,"CHD",1,"DTS")=290002
VAR(3,"CHD",1,"TRM")="Brittle type I diabetes mellitus (finding)"
VAR(3,"CHD",2,"CON")=445353002
VAR(3,"CHD",2,"DTS")=445353
VAR(3,"CHD",2,"TRM")="Brittle type II diabetes mellitus (finding)"
VAR(3,"CON")=11530004
VAR(3,"DTS")=11530
VAR(3,"FSN","DSC")=2870119016
VAR(3,"FSN","TRM")="Brittle diabetes mellitus (finding)"
VAR(3,"ISA",1,"CON")=""
VAR(3,"ISA",1,"DTS")=441742
VAR(3,"ISA",1,"TRM")="Evaluation finding (finding)"
VAR(3,"PRB","DSC")=2658852011
VAR(3,"PRB","TRM")="Brittle diabetes mellitus"
VAR(3,"SUB",1,"SUB")="IHS Problem List"
VAR(3,"SUB",2,"SUB")="PXRM DIABETES"
VAR(3,"SUB",3,"SUB")="PICK Public Health Nursing"
VAR(3,"SUB",4,"SUB")="PICK Womens Health"
VAR(3,"SUB",5,"SUB")="IHS PROBLEM SUPERSET"
VAR(4,"CON")=445353002
VAR(4,"DTS")=445353
VAR(4,"FSN","DSC")=2869931011
VAR(4,"FSN","TRM")="Brittle type II diabetes mellitus (finding)"
VAR(4,"ISA",1,"CON")=11530004
VAR(4,"ISA",1,"DTS")=11530
VAR(4,"ISA",1,"TRM")="Brittle diabetes mellitus (finding)"
VAR(4,"PRB","DSC")=2870780015
VAR(4,"PRB","TRM")="Brittle type II diabetes mellitus"
VAR(4,"SUB",1,"SUB")="PXRM DIABETES"
VAR(4,"SUB",2,"SUB")="PICK Womens Health"
VAR(5,"CHD",1,"CON")=5969009
VAR(5,"CHD",1,"DTS")=5969
VAR(5,"CHD",1,"TRM")="Diabetes mellitus associated with genetic syndrome
(disorder)"
VAR(5,"CHD",2,"CON")=91352004
VAR(5,"CHD",2,"DTS")=91352
VAR(5,"CHD",2,"TRM")="Diabetes mellitus due to structurally abnormal
insulin (disorder)"
VAR(5,"CHD",3,"CON")=199223000
VAR(5,"CHD",3,"DTS")=199223
VAR(5,"CHD",3,"TRM")="Diabetes mellitus during pregnancy, childbirth and
the puerperium (disorder)"
VAR(5,"CHD",4,"CON")=46635009
VAR(5,"CHD",4,"DTS")=46635
VAR(5,"CHD",4,"TRM")="Diabetes mellitus type 1 (disorder)"
VAR(5,"CHD",5,"CON")=44054006
VAR(5,"CHD",5,"DTS")=44054
VAR(5,"CHD",5,"TRM")="Diabetes mellitus type 2 (disorder)"
VAR(5,"CHD",6,"CON")=111552007
VAR(5,"CHD",6,"DTS")=111552
VAR(5,"CHD",6,"TRM")="Diabetes mellitus without complication (disorder)"
VAR(5,"CHD",7,"CON")=123763000
VAR(5,"CHD",7,"DTS")=123763
```

```
VAR(5,"CHD",7,"TRM")="Houssay's syndrome (disorder)"
VAR(5,"CHD",8,"CON")=""
VAR(5,"CHD",8,"DTS")=408539
VAR(5,"CHD",8,"TRM")="Insulin autoimmune syndrome (disorder)"
VAR(5,"CHD",9,"CON")=426875007
VAR(5,"CHD",9,"DTS")=426875
VAR(5,"CHD",9,"TRM")="Latent autoimmune diabetes mellitus in adult
(disorder)"
VAR(5,"CHD",10,"CON")=359939009
VAR(5,"CHD",10,"DTS")=359939
VAR(5,"CHD",10,"TRM")="Maternal diabetes mellitus (disorder)"
VAR(5,"CHD",11,"CON")=441628001
VAR(5,"CHD",11,"DTS")=441628
VAR(5,"CHD",11,"TRM")="Multiple complications due to diabetes mellitus
(disorder)"
VAR(5,"CHD",12,"CON")=49817004
VAR(5,"CHD",12,"DTS")=49817
VAR(5,"CHD",12,"TRM")="Neonatal diabetes mellitus (disorder)"
VAR(5,"CHD",13,"CON")=445260006
VAR(5,"CHD",13,"DTS")=445260
VAR(5,"CHD",13,"TRM")="Posttransplant diabetes mellitus (disorder)"
VAR(5,"CHD",14,"CON")=446641003
VAR(5,"CHD",14,"DTS")=446641
VAR(5,"CHD",14,"TRM")="Renal cysts and diabetes syndrome (disorder)"
VAR(5,"CHD",15,"CON")=8801005
VAR(5,"CHD",15,"DTS")=8801
VAR(5,"CHD",15,"TRM")="Secondary diabetes mellitus (disorder)"
VAR(5,"CON")=73211009
VAR(5,"DTS")=73211
VAR(5,"FSN","DSC")=813575016
VAR(5,"FSN","TRM")="Diabetes mellitus (disorder)"
VAR(5,"ISA",1,"CON")=362969004
VAR(5,"ISA",1,"DTS")=362969
VAR(5,"ISA",1,"TRM")="Disorder of endocrine system (disorder)"
VAR(5,"ISA",2,"CON")=""
VAR(5,"ISA",2,"DTS")=126877
VAR(5,"ISA",2,"TRM")="Disorder of glucose metabolism (disorder)"
VAR(5,"PRB","DSC")=121589010
VAR(5,"PRB","TRM")="Diabetes mellitus"
VAR(5,"SUB",1,"SUB")="IHS Problem List"
VAR(5,"SUB",2,"SUB")="PXRM DIABETES"
VAR(5,"SUB",3,"SUB")="PICK Public Health Nursing"
VAR(5,"SUB",4,"SUB")="PICK Womens Health"
VAR(5,"SUB",5,"SUB")="IHS PROBLEM SUPERSET"

>W $$ICD2SMD^BSTSAPI(OUT,IN)
2^

>ZW VAR
VAR(1,"CHD",1,"CON")=190331003
VAR(1,"CHD",1,"DTS")=190331
VAR(1,"CHD",1,"TRM")="Diabetes mellitus, adult onset, with hyperosmolar
coma (disorder)"
VAR(1,"CHD",2,"CON")=190330002
VAR(1,"CHD",2,"DTS")=190330
VAR(1,"CHD",2,"TRM")="Diabetes mellitus, juvenile type, with hyperosmolar
coma (disorder)"
VAR(1,"CHD",3,"CON")=""
VAR(1,"CHD",3,"DTS")=237621
VAR(1,"CHD",3,"TRM")="Diabetic severe hyperglycemia (disorder)"
VAR(1,"CHD",4,"CON")=""
```

```
VAR(1,"CHD",4,"DTS")=441656
VAR(1,"CHD",4,"TRM")="Hyperglycemic crisis in diabetes mellitus (disorder)"
VAR(1,"CHD",5,"CON")=428896009
VAR(1,"CHD",5,"DTS")=428896
VAR(1,"CHD",5,"TRM")="Hyperosmolality due to uncontrolled type 1 diabetes
mellitus (disorder)"
VAR(1,"CHD",6,"CON")=""
VAR(1,"CHD",6,"DTS")=421725
VAR(1,"CHD",6,"TRM")="Hypoglycemic coma in diabetes mellitus (disorder)"
VAR(1,"CHD",7,"CON")=""
VAR(1,"CHD",7,"DTS")=190411
VAR(1,"CHD",7,"TRM")="Malnutrition-related diabetes mellitus with multiple
complications (disorder)"
VAR(1,"CHD",8,"CON")=""
VAR(1,"CHD",8,"DTS")=441628
VAR(1,"CHD",8,"TRM")="Multiple complications due to diabetes mellitus
(disorder)"
VAR(1,"CON")=237620003
VAR(1,"DTS")=237620
VAR(1,"FSN","DSC")=626375013
VAR(1,"FSN","TRM")="Abnormal metabolic state in diabetes mellitus
(disorder)"
VAR(1,"ISA",1,"CON")=74627003
VAR(1,"ISA",1,"DTS")=74627
VAR(1,"ISA",1,"TRM")="Diabetic complication (disorder)"
VAR(1,"ISA",2,"CON")=75934005
VAR(1,"ISA",2,"DTS")=75934
VAR(1,"ISA",2,"TRM")="Metabolic disease (disorder)"
VAR(1,"PRB","DSC")=356119011
VAR(1,"PRB","TRM")="Abnormal metabolic state in diabetes mellitus"
VAR(1,"SUB",1,"SUB")="IHS Problem List"
VAR(2,"CON")=237610008
VAR(2,"DTS")=237610
VAR(2,"FSN","DSC")=626364014
VAR(2,"FSN","TRM")="Acrorenal field defect, ectodermal dysplasia, and
lipoatrophic diabetes (disorder)"
VAR(2,"ISA",1,"CON")=""
VAR(2,"ISA",1,"DTS")=17346
VAR(2,"ISA",1,"TRM")="Disorder of endocrine pancreas (disorder)"
VAR(2,"ISA",2,"CON")=71325002
VAR(2,"ISA",2,"DTS")=71325
VAR(2,"ISA",2,"TRM")="Lipodystrophy (disorder)"
VAR(2,"ISA",3,"CON")=""
VAR(2,"ISA",3,"DTS")=281867
VAR(2,"ISA",3,"TRM")="Multisystem disorder (disorder)"
VAR(2,"PRB","DSC")=356097011
VAR(2,"PRB","TRM")="Acrorenal field defect, ectodermal dysplasia, and
lipoatrophic diabetes"
VAR(3,"CHD",1,"CON")=""
VAR(3,"CHD",1,"DTS")=290002
VAR(3,"CHD",1,"TRM")="Brittle type I diabetes mellitus (finding)"
VAR(3,"CHD",2,"CON")=445353002
VAR(3,"CHD",2,"DTS")=445353
VAR(3,"CHD",2,"TRM")="Brittle type II diabetes mellitus (finding)"
VAR(3,"CON")=11530004
VAR(3,"DTS")=11530
VAR(3,"FSN","DSC")=2870119016
VAR(3,"FSN","TRM")="Brittle diabetes mellitus (finding)"
VAR(3,"ISA",1,"CON")=""
VAR(3,"ISA",1,"DTS")=441742
VAR(3,"ISA",1,"TRM")="Evaluation finding (finding)"
```

```
VAR(3,"PRB","DSC")=2658852011
VAR(3,"PRB","TRM")="Brittle diabetes mellitus"
VAR(3,"SUB",1,"SUB")="IHS Problem List"
VAR(4,"CON")=445353002
VAR(4,"DTS")=445353
VAR(4,"FSN","DSC")=2869931011
VAR(4,"FSN","TRM")="Brittle type II diabetes mellitus (finding)"
VAR(4,"ISA",1,"CON")=11530004
VAR(4,"ISA",1,"DTS")=11530
VAR(4,"ISA",1,"TRM")="Brittle diabetes mellitus (finding)"
VAR(4,"PRB","DSC")=2870780015
VAR(4,"PRB","TRM")="Brittle type II diabetes mellitus"
VAR(5,"CHD",1,"CON")=""
VAR(5,"CHD",1,"DTS")=5969
VAR(5,"CHD",1,"TRM")="Diabetes mellitus associated with genetic syndrome
(disorder)"
VAR(5,"CHD",2,"CON")=""
VAR(5,"CHD",2,"DTS")=91352
VAR(5,"CHD",2,"TRM")="Diabetes mellitus due to structurally abnormal
insulin (disorder)"
VAR(5,"CHD",3,"CON")=199223000
VAR(5,"CHD",3,"DTS")=199223
VAR(5,"CHD",3,"TRM")="Diabetes mellitus during pregnancy, childbirth and
the puerperium (disorder)"
VAR(5,"CHD",4,"CON")=46635009
VAR(5,"CHD",4,"DTS")=46635
VAR(5,"CHD",4,"TRM")="Diabetes mellitus type 1 (disorder)"
VAR(5,"CHD",5,"CON")=44054006
VAR(5,"CHD",5,"DTS")=44054
VAR(5,"CHD",5,"TRM")="Diabetes mellitus type 2 (disorder)"
VAR(5,"CHD",6,"CON")=111552007
VAR(5,"CHD",6,"DTS")=111552
VAR(5,"CHD",6,"TRM")="Diabetes mellitus without complication (disorder)"
VAR(5,"CHD",7,"CON")=123763000
VAR(5,"CHD",7,"DTS")=123763
VAR(5,"CHD",7,"TRM")="Houssay's syndrome (disorder)"
VAR(5,"CHD",8,"CON")=""
VAR(5,"CHD",8,"DTS")=408539
VAR(5,"CHD",8,"TRM")="Insulin autoimmune syndrome (disorder)"
VAR(5,"CHD",9,"CON")=426875007
VAR(5,"CHD",9,"DTS")=426875
VAR(5,"CHD",9,"TRM")="Latent autoimmune diabetes mellitus in adult
(disorder)"
VAR(5,"CHD",10,"CON")=""
VAR(5,"CHD",10,"DTS")=359939
VAR(5,"CHD",10,"TRM")="Maternal diabetes mellitus (disorder)"
VAR(5,"CHD",11,"CON")=""
VAR(5,"CHD",11,"DTS")=441628
VAR(5,"CHD",11,"TRM")="Multiple complications due to diabetes mellitus
(disorder)"
VAR(5,"CHD",12,"CON")=49817004
VAR(5,"CHD",12,"DTS")=49817
VAR(5,"CHD",12,"TRM")="Neonatal diabetes mellitus (disorder)"
VAR(5,"CHD",13,"CON")=""
VAR(5,"CHD",13,"DTS")=445260
VAR(5,"CHD",13,"TRM")="Posttransplant diabetes mellitus (disorder)"
VAR(5,"CHD",14,"CON")=""
VAR(5,"CHD",14,"DTS")=446641
VAR(5,"CHD",14,"TRM")="Renal cysts and diabetes syndrome (disorder)"
VAR(5,"CHD",15,"CON")=8801005
VAR(5,"CHD",15,"DTS")=8801
```

```
VAR(5,"CHD",15,"TRM")="Secondary diabetes mellitus (disorder)"
VAR(5,"CON")=73211009
VAR(5,"DTS")=73211
VAR(5,"FSN","DSC")=813575016
VAR(5,"FSN","TRM")="Diabetes mellitus (disorder)"
VAR(5,"ISA",1,"CON")=362969004
VAR(5,"ISA",1,"DTS")=362969
VAR(5,"ISA",1,"TRM")="Disorder of endocrine system (disorder)"
VAR(5,"ISA",2,"CON")=""
VAR(5,"ISA",2,"DTS")=126877
VAR(5,"ISA",2,"TRM")="Disorder of glucose metabolism (disorder)"
VAR(5,"PRB","DSC")=121589010
VAR(5,"PRB","TRM")="Diabetes mellitus"
VAR(5,"SUB",1,"SUB")="IHS Problem List"

...

VAR(28,"CON")=199230006
VAR(28,"DTS")=199230
VAR(28,"FSN","DSC")=583835010
VAR(28,"FSN","TRM")="Pre-existing diabetes mellitus, non-insulin-dependent
(disorder)"
VAR(28,"ISA",1,"CON")=44054006
VAR(28,"ISA",1,"DTS")=44054
VAR(28,"ISA",1,"TRM")="Diabetes mellitus type 2 (disorder)"
VAR(28,"PRB","DSC")=306113018
VAR(28,"PRB","TRM")="Pre-existing diabetes mellitus, non-insulin-dependent"
VAR(28,"SUB",1,"SUB")="IHS Problem List"
VAR(28,"SUB",2,"SUB")="PXRM DIABETES"
VAR(28,"SUB",3,"SUB")="PICK Public Health Nursing"
VAR(28,"SUB",4,"SUB")="PICK Womens Health"
VAR(28,"SUB",5,"SUB")="IHS PROBLEM SUPERSET"
VAR(29,"CON")=237627000
VAR(29,"DTS")=237627
VAR(29,"FSN","DSC")=626383019
VAR(29,"FSN","TRM")="Pregnancy and non-insulin-dependent diabetes mellitus
(disorder)"
VAR(29,"ISA",1,"CON")=44054006
VAR(29,"ISA",1,"DTS")=44054
VAR(29,"ISA",1,"TRM")="Diabetes mellitus type 2 (disorder)"
VAR(29,"ISA",2,"CON")=359939009
VAR(29,"ISA",2,"DTS")=359939
VAR(29,"ISA",2,"TRM")="Maternal diabetes mellitus (disorder)"
VAR(29,"PRB","DSC")=356133011
VAR(29,"PRB","TRM")="Pregnancy and non-insulin-dependent diabetes mellitus"
VAR(29,"SUB",1,"SUB")="PXRM DIABETES"
VAR(29,"SUB",2,"SUB")="PICK Public Health Nursing"
VAR(29,"SUB",3,"SUB")="PICK Womens Health"
VAR(30,"CON")=444110003
VAR(30,"DTS")=444110
VAR(30,"FSN","DSC")=2836892013
VAR(30,"FSN","TRM")="Type II diabetes mellitus well controlled (finding)"
VAR(30,"ISA",1,"CON")=170763003
VAR(30,"ISA",1,"DTS")=170763
VAR(30,"ISA",1,"TRM")="Diabetic - good control (finding)"
VAR(30,"PRB","DSC")=2840651011
VAR(30,"PRB","TRM")="Type II diabetes mellitus well controlled"
VAR(30,"SUB",1,"SUB")="PXRM DIABETES"
VAR(30,"SUB",2,"SUB")="PICK Public Health Nursing"
VAR(30,"SUB",3,"SUB")="PICK Womens Health"
VAR(31,"CHD",1,"CON")=314904008
```

```
VAR(31,"CHD",1,"DTS")=314904
VAR(31,"CHD",1,"TRM")="Type II diabetes mellitus with neuropathic
arthropathy (disorder)"
VAR(31,"CON")=314903002
VAR(31,"DTS")=314903
VAR(31,"FSN","DSC")=711739010
VAR(31,"FSN","TRM")="Type II diabetes mellitus with arthropathy (disorder)"
VAR(31,"ISA",1,"CON")=44054006
VAR(31,"ISA",1,"DTS")=44054
VAR(31,"ISA",1,"TRM")="Diabetes mellitus type 2 (disorder)"
VAR(31,"PRB","DSC")=459311019
VAR(31,"PRB","TRM")="Type II diabetes mellitus with arthropathy"
VAR(31,"SUB",1,"SUB")="PXRM DIABETES"
VAR(31,"SUB",2,"SUB")="PICK Public Health Nursing"
VAR(31,"SUB",3,"SUB")="PICK Womens Health"
VAR(32,"CON")=313436004
VAR(32,"DTS")=313436
VAR(32,"FSN","DSC")=710202016
VAR(32,"FSN","TRM")="Type II diabetes mellitus without complication
(disorder)"
VAR(32,"ISA",1,"CON")=44054006
VAR(32,"ISA",1,"DTS")=44054
VAR(32,"ISA",1,"TRM")="Diabetes mellitus type 2 (disorder)"
VAR(32,"PRB","DSC")=457330012
VAR(32,"PRB","TRM")="Type II diabetes mellitus without complication"
VAR(32,"SUB",1,"SUB")="IHS Problem List"
VAR(32,"SUB",2,"SUB")="PXRM DIABETES"
VAR(32,"SUB",3,"SUB")="PICK Public Health Nursing"
VAR(32,"SUB",4,"SUB")="PICK Womens Health"
VAR(32,"SUB",5,"SUB")="SRCH Urology/Nephrology"
VAR(32,"SUB",6,"SUB")="IHS PROBLEM SUPERSET"

>
```

A.17 $$DILKP^BSTSAPI

The following example shows how to look up the RxNorm for a given NDC number (utilizing a local cache lookup):

```
>S OUT="VAR",IN="00713011850^N"

>W $$DILKP^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"RXN","CON")=209352
VAR(1,"RXN","TDC")=198434
VAR(1,"RXN","TDT")="Acetaminophen 120 MG Rectal Suppository [198434]"
VAR(1,"RXN","TRM")="Acetaminophen 120 MG Rectal Suppository [Acephen]"
VAR(1,"RXN","TTY")="SBD"

>
```

The following example shows how to look up the RxNorm for a given NDC number (utilizing a remote DTS lookup):

```
>S OUT="VAR",IN="00713011850^N^2"

>W $$DILKP^BSTSAPI(OUT,IN)
```

```
2^
>ZW @OUT
VAR(1,"RXN","CON")=209352
VAR(1,"RXN","TDC")=198434
VAR(1,"RXN","TDT")="Acetaminophen 120 MG Rectal Suppository [198434]"
VAR(1,"RXN","TRM")="Acetaminophen 120 MG Rectal Suppository [Acephen]"
VAR(1,"RXN","TTY")="SBD"

>
```

The following example shows how to look up the RxNorm for a given VUID number (utilizing a local cache lookup):

```
>S OUT="VAR",IN="4000734^V"

>W $$DILKP^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"RXN","CON")=702519
VAR(1,"RXN","TDC")=""
VAR(1,"RXN","TDT")=""
VAR(1,"RXN","TRM")="Phenobarbital 4 MG/ML Oral Solution"
VAR(1,"RXN","TTY")="SCD"

>
```

A.18 $$ASSOC^BSTSAPI

The following example shows how to display any associations for a given term. In this case, it is looking up the SNOMED CT information for a given GMRA Signs Symptoms entry (utilizing a local cache lookup):

```
>W $$ASSOC^BSTSAPI("ABDOMINAL BLOATING^32772")
116289008^^
>
```

The following example shows the same call but instead of looking in local cache, it is doing a remote DTS lookup:

```
>W $$ASSOC^BSTSAPI("ABDOMINAL BLOATING^32772^^2")
116289008^^
>
```

In this case, it is looking up the SNOMED CT information for a given IHS Med Route entry (utilizing a local cache lookup):

```
>W $$ASSOC^BSTSAPI("ORAL^32774")
26643006^^
>
```

A.19 $$DI2RX^BSTSAPI

The following example shows how to display the first RxNorm mapping for a particular NDC value (utilizing a local cache lookup):

```
>S IN="00713011850^N"

>W $$DI2RX^BSTSAPI(IN)
209352^Acetaminophen 120 MG Rectal Suppository
[Acephen]^198434^Acetaminophen 12
0 MG Rectal Suppository [198434]^SBD
>
```

Glossary

Electronic Health Record

An application used by medical organizations to track patient medical records and care.

ICD Codes

One of several code sets used by the healthcare industry to standardize data. The International Classification of Disease (ICD) codes are an international diagnostic coding scheme. In addition to diseases, ICD also includes several families of terms for medical-specialty diagnoses, health status, disablements, procedures, and reasons for contact with HCPs. IHS currently uses ICD-9 for coding.

Office of Information Technology

The organization within IHS that is responsible for developing and maintaining RPMS and related IT functions.

Resource and Patient Management System

A series of integrated software components that includes clinical, administrative, and financial functions.

Acronym List

API	Application Programming Interface
dll	Dynamic Linked Library
DTS	Distributed Terminology System
EHR	Electronic Health Record
ICD	International Classification of Diseases
IHS	Indian Health Service
OS	Operating System
RPC	Remote Procedure Call
RPMS	Resource and Patient Management System
SAC	Standards and Conventions
SNOMED CT	Systematized Nomenclature of Medicine-Clinical Terms

Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk (IHS).

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Email: support@ihs.gov