



RESOURCE AND PATIENT MANAGEMENT SYSTEM

IHS Standard Terminology Application Programming Interface

(BSTS)

Technical Manual

Version 2.0 Patch 3
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Preface

The purpose of this manual is to provide technical information about the Version 2.0 Patch 3 release of 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 Massachusetts General Hospital (M) Utility Multi Programming System MUMPS-based/FileMan-based systems to interact with an external terminology server, specifically DTS.

DTS 4.4, provided by Apelon, Inc. (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 application developers with a technical description of the BSTS APIs, routines, files, menus, cross references, globals, and other necessary information required to effectively use 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 BSTS APIs 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.

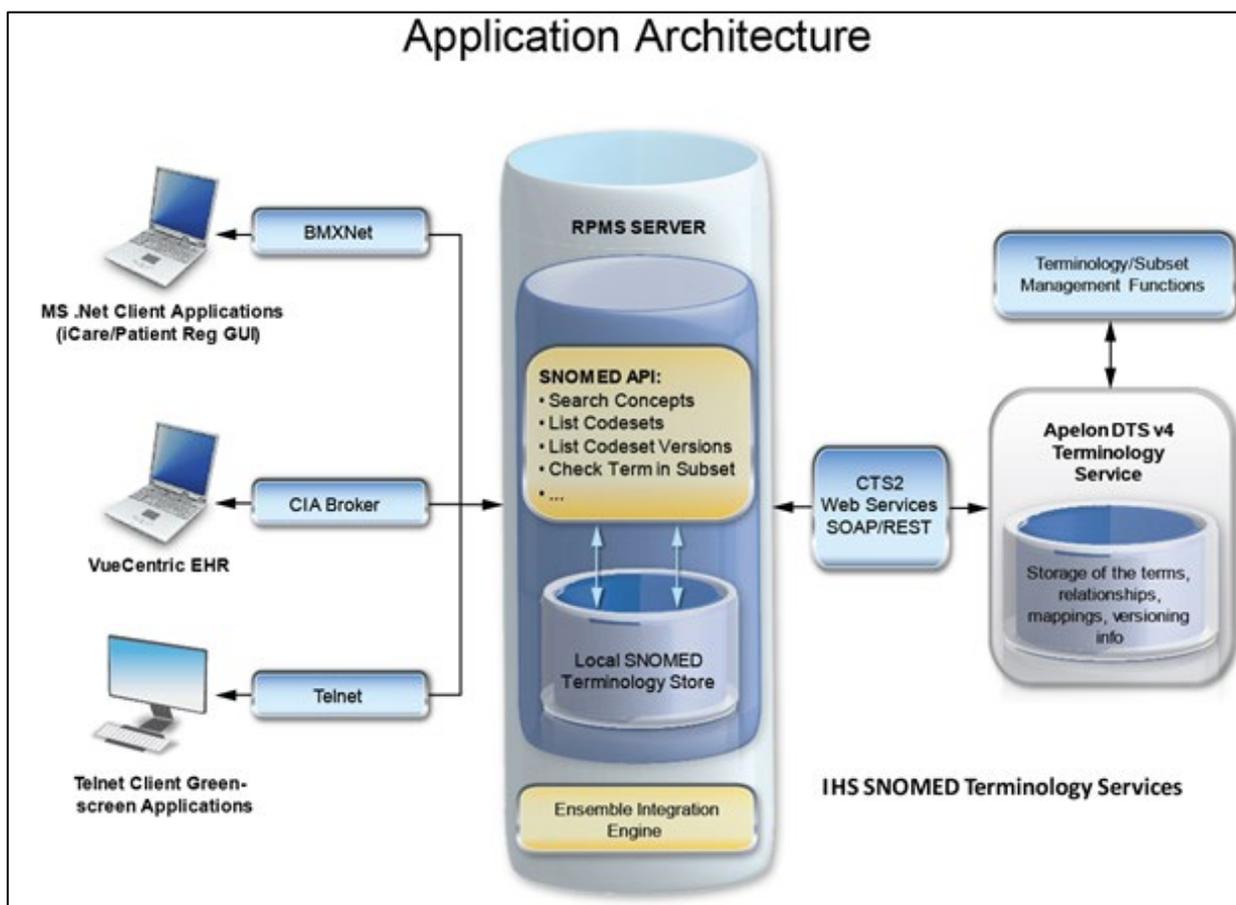


Figure 2-1: High-level application architecture diagram for the IHS Terminology Services Solution

2.1 RPMS Applications

Pictured on the left side 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 use an ADO.NET adapter for RPMS that is called BMXNet.
- The EHR components use 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 solution, each of these types of applications continue to interact with RPMS using the same mechanisms they currently use and interact with the terminology services via the new RPMS Terminology Services API described within this document.

2.2 Terminology Service RPMS API

Applications interact with a MUMPS-based API library that exposes functions and classes that encapsulate the interface with the DTS terminology server. These APIs return information in familiar data array format and eliminate the need for the applications to directly interface with the web service interface and related Extensible Markup Language (XML) messaging.

While the current library of BSTS API calls is currently 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 library.

2.3 Stand-alone Terminology Service Instance

The terminology service solution component selected for this proposed design is the DTS Version 4.4 created by Apelon. Specific information about the DTS 4.4 application follows:

Solution/Product Name:	Apelon DTS Version 4.4
Company Website:	http://www.apelon.com
DTS Product Page:	http://apelondts.org/
Open Source Development Community:	http://apelon-dts.sourceforge.net/
Description:	<p>Apelon DTS is developed and supported by Apelon and consists of the following components:</p> <ul style="list-style-type: none">• 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 4.4 software is currently available at no cost. Apelon offers other paid services for standard code-set updates and mapping information from published sources.
Support:	Available as a paid service from Apelon. 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 4.4, released in December 2015.
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 2012.2 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 2012.2 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 APIs in turn, use a web service interface to interact with the terminology servers, with the current implementation being an interface with the Apelon DTS 4.4 terminology service.

3.1 General Information

The following table shows the prerequisite patch requirements:

Table 3-1: Prerequisite Patch Requirements

Package	Minimum Version	Brief Patch Description
IHS STANDARD TERMINOLOGY	Version 2.0 Patch 2	The version 2.0 patch 2 release of the IHS STANDARD TERMINOLOGY (BSTS) package.

3.2 System Requirements

The following table shows the versions of other packages that should be installed for BSTS to work properly. These packages have not been marked as required for this release as they will have already been installed in any RPMS environment.

Table 3-2: System Requirements

Module	Minimum Version
Ensemble 2012 or HealthShare 2017	v2012.2 (Ensemble) or v2017.2.2 (HealthShare)
VA FileMan (DI)	v22.0 Patch 1018
IHS/VA Utilities (XB)	v3.0 through Patch 11
IHS Kernel Toolkit (XT)	v7.3 through Patch 1017
VA Kernel (XU)	v8.0 Patch 1018

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 shown in Table 3-3.

Table 3-3: Security Keys

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

In addition, the **BSTSRPC** option must be assigned to each user as a secondary menu option in order for the utility to work correctly.

3.5 Codeset Updates

3.5.1 Update Methods

The BSTS application uses a number of different codesets and custom mappings. Updates to these codesets and mappings are available for retrieval from the connection to the DTS server. Information can be retrieved in two different ways.

First, an automated process will check daily to see if each codeset version number has changed from what is on file locally. If the version numbers of a codeset are different, it will kick off a background process to refresh that codeset. With the release of Version 1 Patch 7, several codesets have been grouped together and are processed all at once. Codesets 32777, 32779, 32780, as well as subset modifications and RxNorm NDC/VUID lookups are all processed at once. Whenever a new 32777, 32779 or 32780 codeset is released, all of the codesets and the subsets will get updated. This is done to eliminate having to refresh the same concepts multiple times during an update cycle. Logic is still in place to guarantee periodic subset refreshes. Subset refresh frequency is based on the **BSTS SITE PARAMETERS file REFRESH SUBSETS EVERY # DAYS** field value. If the number of days between subset refreshes (including refreshes done as part of a 32777/32779/32780 update) exceeds the days specified by the parameter, then a subset refresh background process will be kicked off. These background processes are scheduled to run after six o'clock PM at the site. With the release of BSTS v2.0 Patch 3, this start time can be changed by assigning a new start time in the PROCESS START TIME field definition found in the **Check Terminology Web Service Status** option. See Section 4.1.6 for more information on how to adjust this setting.

The second method to updating codesets and mappings is by manually kicking of an update using the **Refresh IHS Standard Terminology Local Cache** option which is explained in Section 4.1.5 of this document. Running this option will immediately kick off a background process to update the specified codeset or mapping.

Figure 3-1 shows the list of codesets delivered with the BSTS application. The codesets listed below which have a CURRENT VERSION assigned are capable of being updated using the update mechanisms described above. To refresh the 32779 or 32780 codesets, select 32777 from the list and all will be updated. Note that new content could have been delivered since the release of Version 2.0 Patch 3, so the versions listed may not line up with the versions currently loaded at the sites.

Current BSTS Codeset Version Information:				
CODE	CODESET	CURRENT VERSION	COMPLETED CHECKS	SUBSET RUN
10	ICD-9-CM-C1			
36	SCTUSEXT	20200301	04/23/20	03/23/20
1552	RXNORMR	20191202	04/23/20	04/16/20
5102	LOINC-3			
5140	ICD10CM			
5180	UNII	201900712	04/23/20	
17161	SCT-US-MAP_ICD9CM			
32768	32768			
32769	N32769			
32770	N32770			
32771	32771	13	04/23/20	
32772	32772	8	04/23/20	
32773	32773	15	04/23/20	
32774	32774	4	04/23/20	
32775	32775	1	04/23/20	
32777	32777	45	04/23/20	
32778	32778	1	03/29/16	
32779	32779	45	04/23/20	
32780	32780	17	04/23/20	
32784	N32784			
35290	SCT-US-MAP_ICD10CM			
35291	SCT-US-MAP_ICD9CM			
<END OF REPORT>				

Figure 3-1: BSTS application codesets

3.5.2 Periodic Updates

The IHS terminology staff intends to provide periodic updates to the BSTS codesets described above. Some of the more common updates are described below:

- SNOMED CT subsets – The plan is to provide updates to subsets every thirty to sixty days. These updates will be pulled down from the server based on the BSTS SITE PARAMETERS file REFRESH SUBSETS EVERY # DAYS field value. If the subset updates are desired earlier, the update process can be manually started using the **Refresh IHS Standard Terminology Local Cache** option.

- SNOMED to ICD10 mappings – As mapping updates become fine-tuned, new releases of the 32777, 32779 and 32780 codesets will become available. The updates, once loaded into the DTS Production server, will be pulled down automatically by the site approximately one day later (depending on the time that the server is updated with the new mappings). The update can also be manually kicked off, if desired, using the Refresh IHS Standard Terminology Local Cache option.
- SNOMED CT codeset updates – Twice a year a new SNOMED CT codeset version will become available. These updates, once loaded into the DTS Production server, will begin to automatically be refreshed at the sites within approximately one day.
- RxNorm codeset updates – Multiple times per year new versions of the RxNorm codeset will become available. These updates will be downloaded to the sites approximately one to two days after being loaded onto the DTS Production server. Whenever a new RxNorm codeset is loaded, the following processes will be kicked off:
 - Kick off the pharmacy DQ^APSPRCUI process to update the **RXCUI** field in the **DRUG** file with new RxNorm values. (BSTS v2.0 Patch 3 change)
 - The RxNorm subset refresh (see next bullet point) will be kicked off. (BSTS v2.0 Patch 3 change)
- RxNorm subsets –RxNorm subsets can also be downloaded at the sites. Subsets will automatically be updated based on the **SITE PARAMETERS file REFRESH SUBSETS EVERY # DAYS** field value. If subset updates are desired earlier, the update process can be manually started using the **Refresh IHS Standard Terminology Local Cache** option.
- Allergy (codeset 32773), Signs & Symptoms (codeset 32772), Drug Ingredients (codeset 32771) and Med Route (codeset 32774) codesets will occasionally be modified. With the release of BSTS v2.0 Patch 3, the following will occur:
 - When there is an update to codesets 32771, 32772 or 32773 the GMR Allergy process BACKLOAD^GMRAZR XU will be kicked off
 - When there is an update to codeset 32774 the pharmacy process UPRUTE^APSPRCUI will be kicked off.

3.6 DTS Connection Failover Handling

3.6.1 Regular API Calls

With the release of Version 1 Patch 2 (which automatically shut the DTS link off if a connection error was received), it was determined that occasionally network or other disruptions at the sites were causing requests to the DTS server to fail, even though the DTS server itself was up and running. These disruptions were causing sites' DTS connections to revert to local mode fairly often. To address this issue, each web service call to the DTS server was modified so that it will immediately make another attempt at connecting to the server if the current attempt results in any error, other than a timeout error. The number of times that the process will attempt to make the call relies on the (currently hidden) **BSTS WEB SERVICES ENDPOINT** file **RETRIES ON FAILURE** field. The default value for this field is one, meaning if a call to DTS errors out, it will try one more time before turning off the link. Typically, if the DTS server is not down, the second attempt will succeed. If a site does however experience frequent network disruptions, incrementing this setting to a two or three (using FileMan to modify the setting) might allow for more connections to complete and for the DTS link to therefore remain online.

3.6.2 Background Processing

As detailed in the Section 3.5, the BSTS application relies on background processing to keep its codesets and mappings up to date. In order for the updates to work properly, it is necessary that the site link to the DTS server be up and running while the processes are running. The following special logic will attempt to handle connection disruptions while a background process is running:

- The immediate call retry logic detailed in Section 3.6.1 has been implemented for all calls used by the background processes
- Prior to making each remote API call, logic will attempt to force the DTS link back online. This logic will override any attempts by users to turn off the link manually using the **Turn off the DTS Link** selection in the **Check Terminology Web Service Status** BSTS menu option. If a user turns the link off using the option, the next call by the background process will immediately turn it back on.
- Should an actual interruption occur between the site and the DTS server, meaning the connection attempts detailed in Section 3.6.1 all fail, further logic is in place to try to get the process to finish. This additional logic functions as follows:

- After the failover handling documented in Section 3.6.1 fails to make a successful connection, background processes will attempt to repeat the handling documented in Section 3.6.1. The number of times this process is repeated depends on the value of the (hidden) **MAX FAILURES BEFORE WAITING** field in the **BSTS WEB SERVICE ENDPOINT** file. The default value for this field is ten, meaning that the Section 3.6.1 logic will be repeated ten times before moving to the next step in the failover logic.
- If a successful connection to the DTS server is still not established using the prior logic, the background process will enter a wait state. For the first six times this state is reached, the process will wait for five minutes before trying to make connection to the DTS server again using the same failover logic listed in the prior steps. This means that background processes will attempt to connect after waiting for 5 minutes, 10 minutes, 15 minutes, 20 minutes, 25 minutes, and finally 30 minutes. If a successful connection cannot be made after this period, then the background processes will wait for a longer period before attempts. The length of this wait period is determined by the value of the (hidden) **UPDATE FAILURE WAIT TIME** field in the **BSTS WEB SERVICE ENDPOINT** file. The default value for this field is two hours, meaning that after the initial checks of every five minutes for the first thirty minutes, the remaining checks will occur after two and a half hours, four and a half hours, six and a half hours, eight and a half hours, ten and a half hours, and twelve and a half hours.
- If after twelve and a half hours, a connection to the DTS cannot be made, the background process will terminate. If the background process still has not been completed, the same process will be attempted again the next time the background process runs which should be after six o'clock PM (depending on the new **PROCESS START TIME** setting released in BSTS v2.0 Patch 3). With the release of BSTS v2.0 Patch 3, the process will restart from the point that it previously stopped instead of from the beginning as it used to do. If the site does not wish to wait for the job to automatically restart they can run the **Kick off background process now** option under the **Other Options** selection in the **Check Terminology Web Service Status** option.

Table 3-4 illustrates the failover logic call attempts for the background processing when the connection to the DTS server is not available and the field settings are set to the default values.

Table 3-4: Failover logic attempts

Elapsed Time (minutes)	Call Attempt	Call Result
0	1	Attempt 1 - Sect 3.6.1 try 1 <fail>
0	2	Attempt 1 - Sect 3.6.1 try 2 <fail>
0	3	Attempt 2 – Sect 3.6.1 try 1 <fail>

Elapsed Time (minutes)	Call Attempt	Call Result
0	4	Attempt 2 – Sect 3.6.1 try 2 <fail>
0	5	Attempt 3 – Sect 3.6.1 try 1 <fail>
0	6	Attempt 3 – Sect 3.6.1 try 2 <fail>
0	7	Attempt 4 - Sect 3.6.1 try 1 <fail>
0	8	Attempt 4 - Sect 3.6.1 try 2 <fail>
0	9	Attempt 5 – Sect 3.6.1 try 1 <fail>
0	10	Attempt 5 – Sect 3.6.1 try 2 <fail>
0	11	Attempt 6 – Sect 3.6.1 try 1 <fail>
0	12	Attempt 6 – Sect 3.6.1 try 2 <fail>
0	13	Attempt 7 - Sect 3.6.1 try 1 <fail>
0	14	Attempt 7 - Sect 3.6.1 try 2 <fail>
0	15	Attempt 8 – Sect 3.6.1 try 1 <fail>
0	16	Attempt 8 – Sect 3.6.1 try 2 <fail>
0	17	Attempt 9 – Sect 3.6.1 try 1 <fail>
0	18	Attempt 9 – Sect 3.6.1 try 2 <fail>
0	19	Attempt 10 - Sect 3.6.1 try 1 <fail>
0	20	Attempt 10 - Sect 3.6.1 try 2 <fail>
5	21	Attempt 1 - Sect 3.6.1 try 1 <fail>
5	22	Attempt 1 - Sect 3.6.1 try 2 <fail>
5	23	Attempt 2 – Sect 3.6.1 try 1 <fail>
5	24	Attempt 2 – Sect 3.6.1 try 2 <fail>
5	25	Attempt 3 – Sect 3.6.1 try 1 <fail>
5	26	Attempt 3 – Sect 3.6.1 try 2 <fail>
5	27	Attempt 4 - Sect 3.6.1 try 1 <fail>
5	28	Attempt 4 - Sect 3.6.1 try 2 <fail>
5	29	Attempt 5 – Sect 3.6.1 try 1 <fail>
5	30	Attempt 5 – Sect 3.6.1 try 2 <fail>
5	31	Attempt 6 – Sect 3.6.1 try 1 <fail>
5	32	Attempt 6 – Sect 3.6.1 try 2 <fail>
5	33	Attempt 7 – Sect 3.6.1 try 1 <fail>
5	34	Attempt 7 – Sect 3.6.1 try 2 <fail>
5	35	Attempt 8 – Sect 3.6.1 try 1 <fail>
5	36	Attempt 8 – Sect 3.6.1 try 2 <fail>
5	37	Attempt 9 – Sect 3.6.1 try 1 <fail>

Elapsed Time (minutes)	Call Attempt	Call Result
5	38	Attempt 9 – Sect 3.6.1 try 2 <fail>
5	39	Attempt 10 – Sect 3.6.1 try 1 <fail>
5	40	Attempt 10 – Sect 3.6.1 try 2 <fail>
10	41	Attempt 1 – Sect 3.6.1 try 1 <fail>
	...	
10	60	Attempt 10 – Sect 3.6.1 try 2 <fail>
15	61	Attempt 1 – Sect 3.6.1 try 1 <fail>
	...	
15	80	Attempt 10 – Sect 3.6.1 try 2 <fail>
20	81	Attempt 1 – Sect 3.6.1 try 1 <fail>
	...	
20	100	Attempt 10 – Sect 3.6.1 try 2 <fail>
25	101	Attempt 1 – Sect 3.6.1 try 1 <fail>
	...	
25	120	Attempt 10 – Sect 3.6.1 try 2 <fail>
30	121	Attempt 1 – Sect 3.6.1 try 1 <fail>
	...	
30	140	Attempt 10 – Sect 3.6.1 try 2 <fail>
150	141	Attempt 1 – Sect 3.6.1 try 1 <fail>
	...	
150	160	Attempt 10 – Sect 3.6.1 try 2 <fail>
270	161	Attempt 1 – Sect 3.6.1 try 1 <fail>
	...	
270	180	Attempt 10 – Sect 3.6.1 try 2 <fail>
390	181	Attempt 1 – Sect 3.6.1 try 1 <fail>
	...	
390	200	Attempt 10 – Section 3.6.1 try 2 <fail>
510	201	Attempt 1 – Sect 3.6.1 try 1 <fail>
	...	
510	220	Attempt 10 – Sect 3.6.1 try 2 <fail>
630	221	Attempt 1 – Sect – 3.6.1 try 1 <fail>
	...	
630	240	Attempt 10 – Sect 3.6.1 try 2 <fail>
750	241	Attempt 1 – Sect 3.6.1 try 1 <fail>

Elapsed Time (minutes)	Call Attempt	Call Result
	...	
750	260	Attempt 10 – Sect 3.6.1 try 2 <fail>. Upon failure, the background process will terminate, and the process will be attempted again after six PM

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 six options for managing BSTS:

- **Add/Edit Terminology Web Service [BSTS WEB SERVICE]**. Updates information about web services used by the site. This option requires the BSTSZMENU security key.
- **Edit Terminology Site Parameters [BSTS EDIT SITE PARAMETERS]**. Updates site specific configuration settings. This option requires the BSTSZMENU security key.
- **Description Id Population Utility [BSTS DESC ID UTILITY]**. This option reviews DTS description ids recorded in several files and makes sure that a term can be retrieved for that description id.
- **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 Local Cache [BSTS REFRESH LOCAL CACHE]**. This option allows users to refresh the SNOMED with US Extensions codeset subsets or lets users select a custom mapping codeset and refresh its values.
- **Check Terminology Web Service Status [BSTS CHECK WEB SERVICE]**. This option is a utility which allows site managers to monitor and control the DTS interface link. With the release of BSTS Version 2.0 Patch 1, it now also provides reporting options which display update history,

4.1 Menu Option Descriptions

4.1.1 Add/Edit Terminology Web Service

Site Managers will use this option to enter the connection properties for the server (or servers) that their site will use to retrieve codeset information. The Version 2.0 installation process changes the value of the PORT NUMBER field to 44200. Figure 4-1: Sample BSTS WEB SERVICE ENDPOINT file entry

shows a sample display for a connection to the DTS production server:

```
Select IHS Standard Terminology Management <TEST ACCOUNT> Option: WEB
Add/Edit
Terminology Web Service
Select BSTS WEB SERVICE ENDPOINT NAME:      PRODUCTION
URL ROOT: https://dtsservices.ihs.gov  Replace
```

```
PORT NUMBER: 44200//  
TYPE: DTS4//  
TIMEOUT OVERRIDE: 90//  
CONNECTION TIMEOUT OVERRIDE: 4//  
USERNAME: DTSUser//  
PASSWORD: DTSPW!//  
SERVICE PATH: /soap//  
SSL/TLS CONFIGURATION: SNOMEDServer//  
CHECK FOR DTS CONNECTION ON:  
CHECK FOR CONNECTION AFTER:  
MAXIMUM REMOTE SEARCH TIME:
```

Figure 4-1: Sample BSTS WEB SERVICE ENDPOINT file entry

Some of the properties listed above are site adjustable. They can be modified to account for network issues and site preferences. These properties are explained as follows:

TIMEOUT OVERRIDE – This is a maximum time, in seconds, a DTS web service call will wait for a query to finish before it quits (if null, the default is 60 seconds). If a DTS call exceeds this value, the BSTS application will switch over to local access mode. Note that this property pertains to all calls to DTS. Many of these calls happen in the background and are not apparent to the user. Care should be taken to set this property to a value less than 60 seconds. To control DTS maximum DTS search times, please adjust the **MAXIMUM REMOTE SEARCH TIME** property instead of this property.

CONNECTION TIMEOUT OVERRIDE – This is the maximum time, in seconds, a DTS web service call will wait for a connection to be established to the DTS server (if null, the default is 2 seconds). Sites with slower network connections may need to adjust this setting to a higher value. Every attempt should be taken, however, to keep this value as low as possible to avoid longer waits during SNOMED concept lookups. If the time to establish a connection with the DTS server exceeds this value, the BSTS application will switch over to local access mode.

CHECK FOR DTS CONNECTION ON – When the DTS server is operating in local access mode, this property will contain a date and time in the future. This is the date and time after which the application will attempt to contact the DTS server again to see if it is online. If the value of this property is null, the connection to the DTS server is operating successfully.

MAXIMUM REMOTE SEARCH TIME – If, after a search call to DTS is completed, it is determined that, even though the call was successful, it still took longer to complete than the number of seconds listed in this field, it will switch the server to local access mode. This value should be less than or equal to the **TIMEOUT OVERRIDE** value.

CHECK FOR CONNECTION AFTER – When the DTS server switches to local access mode, it will remain in local access mode until the number of minutes specified in this property are reached. When that wait period has been reached, the next call made to DTS after that will attempt to restore connection to the server. If the server is back online or search calls are now returning within the allowable **MAXIMUM REMOTE SEARCH TIME**, the DTS link will be switched back on.

4.1.2 Edit Terminology Site Parameters

This option controls which BSTS WEB SERVICE ENDPOINT entry to use for DTS server connections. Once defined, this entry most likely will never need to be adjusted by the site. There are also two parameters which can be adjusted to suit a site's preferences. Those parameters are the **REFRESH SUBSETS EVERY # DAYS** parameter and the **DAYS TO KEEP ERR RESPONSES** parameter which are documented below. Figure 4-2 shows a typical entry in the **BSTS SITE PARAMETERS** file.

```
Select OPTION NAME: BSTS EDIT SITE PARAMETERS           Edit Terminology Site
Parameters
Select BSTS SITE PARAMETERS NAME:      2016 DEMO HOSPITAL
REFRESH SUBSETS EVERY # DAYS: 30//
Select WEB SERVICE: PRODUCTION//
    WEB SERVICE: PRODUCTION//
    PRIORITY: 1//
    DAYS TO KEEP ERR RESPONSES:
Select WEB SERVICE:
```

Figure 4-2: Sample BSTS SITE PARAMETERS File Entry

REFRESH SUBSETS EVERY # DAYS – Previous content releases of codeset and updates were included in KIDS releases. Future content releases will now be periodically pulled down from the Apelon DTS server. This setting controls how often to refresh the subsets stored locally at the site with the information stored on the remote DTS server. The minimum value for this parameter is fourteen days and the default setting is sixty days. It is expected that updates will be made available for download every thirty to sixty days. Since this subset refresh process can be system intensive and take several hours to run, care should be taken to keep this setting as high a value as possible. If desired, the subset refresh process can always be kicked off manually, if a subset update is released and the content is needed immediately.

DAYS TO KEEP ERR RESPONSES – BSTS now logs any attempted connections to the DTS server which did not complete successfully. This logged information is very helpful in troubleshooting connection issues at the site. Allowable values for this parameter are between seven days and thirty days. The default setting is fourteen days. An automatic nightly purge will now run which purge logged data which is older than the value specified in this parameter.

4.1.3 Description Id Population Utility

When sites upgraded from using Version 1 and Patch 1 releases of the BSTS application to using Patch 2, new SNOMED codeset content was made available. It was determined that the SNOMED content made available from Apelon for Patch 2 contained duplicate terms as well as some existing terms which were active in the previous release but were now inactive. For any such term that was used in EHR while sites were running under the initial release, Version 1, or Patch 1, sites were encountering issues with how the SNOMED term was getting displayed. In a number of cases, such as on the Integrated Problem List, terms were now showing up with an asterisk (*).

As a fix for these issues at the sites, a utility was developed which located the terms with issues and attempts to replace them with a suitable SNOMED term. The utility has two options. The first option (option **C**) allows sites to check for issues. If issues are found during the check, the user will be prompted to fix the issues. They can also choose to run the option to fix the issues directly by choosing the (**R**) option in the menu. This option kicks off a background process (which starts two minutes in the future) which loops through several files and attempts to fix the identified issues.

This utility has been included as an option in the BSTS menu which sites can run if they encounter such issues. Figure 4-3 shows a sample run of the utility check and fix options. Note that the issues encountered, which are shown below, will differ at each site. It is also possible that there is not a replacement SNOMED term for the one on file, so it may not be able to be fixed.

```
Select IHS Standard Terminology Management Option: DES Description Id
Population Utility
This utility will loop through files that contain SNOMED description ids
and will check to make sure a term can be found for that description id.
If a term cannot be found, it attempts to look in DTS for an exact match.
For each match that is found the entry gets replaced with the new entry.

Select one of the following:

C          Check for Missing Concept Detail
R          Run Background Process to Fix Bad Entries
Q          Quit

Enter response: Check for Missing Concept Detail

This option loops through the PROBLEM, PROVIDER NARRATIVE, FAMILY HISTORY
and V POV files and locates concepts with no detail associated with them.

Are you sure you wish to proceed? ? No// YES

Reviewing PROBLEM file entries:
Problem IEN          Patient          Description Id

Reviewing PROVIDER NARRATIVE entries:
IEN                  Description Id
```

```

680509                                     229642003
680510                                     398760006

Reviewing V POV entries:
VPOV IEN          Patient                  Visit          Description Id

Reviewing FAMILY HISTORY entries:
IEN              Patient                  Description Id

Concepts without detail were encountered

Would you like to job off the fix option now? ? No// YES

This option kicks off a background process which will attempt to fix
concepts with no detail associated with them.

Are you sure you wish to proceed? ? No// YES

```

Figure 4-3: Sample run of Description Id Population Utility

4.1.4 Terminology Web Service Test

This option allow users to test the DTS server to see if it is properly returning results. The option is documented in the BSTS Version 2.0 *Installation Manual*.

4.1.5 Refresh IHS Standard Terminology Local Cache

With the release of BSTS Version 1.0 Patch 3, sites now have the ability to manually retrieve content updates made available for download. Sites can run this option to immediately get these content updates. This option kicks off a background task which will refresh the desired content. Depending on the selection, the process could take several hours to complete. Only one background process can be running at a time. Figure 4-4 shows a sample process being kicked off.

```

Select IHS Standard Terminology Management Option: REF Refresh IHS
Standard Terminology Local Cache

This option allows sites to manually refresh IHS Standard Terminology
(BSTS) information cached locally at the site. Using this option, the
subsets associated with the 'SNOMED with US Extensions' codeset can be
refreshed with up to date information retrieved from the Apelon DTS server.
This option also allows custom codeset mappings to be refreshed with
current mappings available
through DTS.

Are you sure you want to do this? NO// YES

Select one of the following:

36          SNOMED CT US Extension Subsets
32771       IHS VANDF
32772       GMRA Signs Symptoms
32773       GMRA Allergies with Maps

```

```

32774      IHS Med Route
32775      CPT Meds with Maps
32777      SNOMED CT to ICD-10-CM Auto-Codeables
32778      SNOMED CT to ICD-9-CM Auto-Codeables

```

```

Select the subset/mapping to refresh: SNOMED CT US Extension Subsets//
32772 GM
RA Signs Symptoms
Start the process? NO// YES

Kicking off background process to refresh local cache subsets/mappings

```

Figure 4-4: Sample subset refresh call

4.1.6 Check Terminology Web Service Status

This option allows site managers to quickly determine the status of the DTS connection, to turn the link On/Off, to adjust the setup properties for the connection, to run daily version checks, to start/stop an update process, and to run reports on the BSTS definitions. Figure 4-5 shows a sample display of this option.

```

Select IHS Standard Terminology Management Option: STS Check Terminology
Web Service Status

Select BSTS WEB SERVICE ENDPOINT NAME: PRODUCTION

Current Server Status:

    Web Service:      PRODUCTION
    Current Status:   ONLINE
    Offline Until:    N/A
    Last Error Message: N/A

Current Server Settings:

    CHECK FOR CONNECTION AFTER:  60 minutes (default)
    CONNECTION TIMEOUT OVERRIDE:  4 seconds
    MAXIMUM REMOTE SEARCH TIME:  60 seconds (default)
    TIMEOUT OVERRIDE:            90 seconds
    ENABLE SEARCH LOGGING:       NO
    NIGHTLY PROCESS START TIME:
    DAILY UPDATE CHECKS:        ENABLED
    CONCEPT SELECTION LOGGING: ENABLED
    HIDE CUSTOM SETTINGS:       NO

1. Refresh Current information
2. Check DTS and Enable if Available
3. Turn off the DTS Link
4. Edit Server Settings
5. Other Options...

Select number or return to quit: (1-5):

```

Figure 4-5: Sample Check Terminology Web Service Status call

When running the option, the user will be prompted to enter the web service to monitor. Most sites will only have one web service (PRODUCTION or PRODUCTION SERVER) set up.

Once a web service is selected, the current status of the selected server is displayed. The display shows whether the server is currently online and if it is not online, the last connection error encountered as well as when the system will try to turn the link back on. This option also displays whether a BSTS related process is currently running in the background. Figure 4-6 shows a sample status display (demonstrating that a Description Id Population Utility is current running).

```
Current Server Status:
Web Service:          PRODUCTION
Current Status:      ONLINE
Offline Until:       N/A
Last Error Message:  N/A
Background process:  Description Id Population Utility is running
                    Checking V POV file entry: 1522808
```

Figure 4-6: Status option showing process running in the background

After selecting the appropriate server, along with the server status, the user will also be presented with a display similar to Figure 4-5, which shows some current BSTS settings as well as provides a number of options. The user has the following five options to select from:

Refresh Current information – Running this option will refresh the current screen. It will not attempt to check to see if the DTS server is now available. It is possible that the screen display might change by running this option if the DTS server status became enabled/disabled by another process while attempting to perform a call to DTS.

Check DTS and Enable if Available – This option will attempt to contact the DTS server. If the call is successful, it will place the server back online. If the call is not successful, it will update the Offline Until value to be the current date/time plus the number of minutes specified by the **CHECK FOR CONNECTION AFTER** property documented above.

Turn off the DTS Link – Running this option will manually turn off the link to DTS for the specified amount of time.

Edit Server Settings – This option will allow the setup properties specified earlier to be adjusted. In addition, a new **ENABLE SEARCH LOGGING** property, released with BSTS v2.0 Patch 1, allows a site to turn on and off logging of user search strings to DTS. See the **Retrieve Search History from DTS** entry in Section 4.1.6 for instructions on retrieving this logged information. For BSTS v2.0 Patch 3, the following settings were also added:

- **PROCESS START TIME** – The standard nightly process kicks off at 6:02 PM every night at the site. Setting this parameter to a different time will cause the process to kick off at that time. Note it may take a day for this setting to take effect.
- **DAILY UPDATE CHECKS** – Entering a **1** in this field will disable the daily update checks. This may be beneficial if a site is encountering networking issues and does not want a codeset up to be found which would in turn cause the update process to later run. Setting the field to **0** (or typing an at symbol [@] at the prompt) will re-enable the daily update checks.
- **LOG SELECTED CONCEPTS** – When this setting is enabled, all concepts selected using the BSTS SNOMED lookup utility will be recorded and sent to the DTS server. This is done so that terminologists can determine what concepts are in use the most so they can focus on those concepts when developing mappings. Setting the field to **YES** will turn on the logging while setting to **NO** (or typing the at symbol [@] at the prompt) will disable the logging.
- **HIDE CUSTOM SETTINGS** – Setting this property to **YES** will turn off the display of the settings in the main page. This is helpful when a background process is running which causes the screen to shift up requiring the user to scroll back to see all of the information. See Figure 4-7 for an example of a hidden display.

```
Select IHS Standard Terminology Management Option: STS  Check Terminology
Web Service Status

Select BSTS WEB SERVICE ENDPOINT NAME: PRODUCTION

Current Server Status:

    Web Service:          PRODUCTION
    Current Status:      ONLINE
    Offline Until:       N/A
    Last Error Message:  N/A

Current Server Settings:  HIDDEN

1. Refresh Current information
2. Check DTS and Enable if Available
3. Turn off the DTS Link
4. Edit Server Settings
5. Other Options...

Select number or return to quit:  (1-5):
```

Figure 4-7: Status option showing hidden custom settings

Other Options – This option, introduced in BSTS v2.0 Patch 1, provides additional functionality to the BSTS application.

By selecting **Other Options**, the user will be presented with the following submenu shown in Figure 4-8.

```
Select number or return to quit: (1-5): 5

Other options menu

1. Run daily update checks
2. Kick off background process now
3. Terminate current background process
4. BSTS reporting
5. Retrieve Search History from DTS
6. Retrieve Log History from DTS

Select number or return to quit: (1-6):
```

Figure 4-8: Other options submenu

The **Other Options** submenu displays the following choices:

Run daily update checks – This option, when run, will perform the daily codeset version checks. If any codesets are found to be out of date, it will put a task on the BSTS queue and schedule the update process to run. The task will be scheduled to run at 6:02 PM or whatever time is entered in the **PROCESS START TIME** setting listed above.

Kick off background process now – Running this option will kick off an update process which will process any BSTS tasks found on the queue. Any process that had previously been started but had errored out or was terminated (using the next option) will automatically start where it left off.

Terminate current background process – Running this option will stop any current background process that is running. This option is useful if a user is attempting to install a new BSTS patch and it won't let them because a process is running. In such situations, the user can run the option to stop the process, install the new BSTS patch, and then run the **Kick off background process now** option to get the process running again.

Retrieve Search History from DTS – If search logging is turned on, running this option will return a listing of search strings attempted by site users. See Figure 4-9 for a sample search.

```
Select number or return to quit: (1-6): 5

DISPLAY BSTS SEARCH STRINGS USED

Display From Date: : T-7//

Display To Date: : T//
```

```

Maximum number of results to return: : (1-9999): 25//

DEVICE: HOME//   Virtual

BSTS SEARCH HISTORY: 04/18/17 TO 04/25/17 - 25 MOST FREQUENTLY USED

SEARCH STRING                                COUNT
COMMON COLD                                  9
JAUNDICE                                     5
ASTHMA                                        3
COUGH                                        2
AC OT MED                                    1
DIAB MEL                                     1
DIAB MELITUS                                1
DIAB MELLITUS                                1
RASH                                         1

<END OF REPORT>

Press 'Return to continue':

```

Figure 4-9: User search history

Retrieve Log History from DTS – Running this option will retrieve a history of events logged by the site to the DTS server. Some information included is weekly version updates, content updates, and patch installation records. Figure 4-10 shows a sample log history for a site.

```

Select number or return to quit: (1-6): 6

DISPLAY BSTS DTS LOG HISTORY

Display From Date: : T-7//

Display To Date: : T//

Maximum number of results to return: : (1-9999): 25//

DEVICE: HOME//   Virtual

BSTS DTS LOG HISTORY: 04/18/17 TO 04/25/17 - LATEST 25 EVENTS LOGGED

ID          EVENT DATE          EVENT TYPE          CODESET          EVENT NAME          VALUE
1025        4/25/2017@12:25     UPDE                32774            CURRENT             4
1024        4/25/2017@12:24     UPDS                32774            CURRENT             3
1023        4/25/2017@12:24     UPDE                32772            CURRENT             5
1022        4/25/2017@12:17     UPDS                32772            CURRENT             4
1021        4/25/2017@12:15     VRSN                32780            VERSION             7
1020        4/25/2017@12:15     VRSN                32779            VERSION             18
1019        4/25/2017@12:15     VRSN                32777            VERSION             20
1018        4/25/2017@12:15     VRSN                32774            VERSION             3
1017        4/25/2017@12:15     VRSN                32773            VERSION             3
1016        4/25/2017@12:15     VRSN                32772            VERSION             4

```

```

1015      4/25/2017@12:15  VRSN          32771    VERSION    1
1014      4/25/2017@12:15  VRSN          5180    VERSION   201300910
1013      4/25/2017@12:15  VRSN          1552    VERSION   20141103
1012      4/25/2017@12:15  VRSN           36    VERSION   20160901

EVENT TYPE LEGEND

EVENT TYPE      DESCRIPTION
INST            BSTS patch installed
UPDS            Update process started
UPDE            Update process finished
VRSN            Current DTS version

<END OF REPORT>

Press 'Return to continue':

```

Figure 4-10: Site log history

Retrieve Concept Selection History from DTS – If the setting to log selected concepts is turned on, this option can be run to show what concepts have been selected by the site. Figure 4-11 Shows a sample running of this option.

```

Select number or return to quit: (1-6): 7

DISPLAY BSTS SELECTED CONCEPTS

Display From Date: : T-7//

Display To Date: : T//

Enter the codeset to retrieve

      Select one of the following:

          R      RxNorm
          S      SNOMED

Enter the codeset to return: SNOMED//

Maximum number of results to return: : (1-9999): 25//

DEVICE: HOME//   VIRTUAL   Right Margin: 80//

BSTS CONCEPT SELECTION HISTORY: 04/17/20 TO 04/24/20 - 25 MOST FREQUENTLY
USED

TERM: Common cold                                COUNT:      4
CONCID: 82272006

TERM: Fever                                        COUNT:      3
CONCID: 386661006

TERM: Open fracture subluxation of elbow joint    COUNT:      2
CONCID: 209261000

```

```

TERM: Asthma                                COUNT:      1
CONCID: 195967001

TERM: Elbow fracture                         COUNT:      1
CONCID: 309464009

TERM: Exercise-induced asthma               COUNT:      1
CONCID: 31387002

<END OF REPORT>

Press 'Return to continue':

```

Figure 4-11: Site concept selection log history

BSTS reporting – Selecting the BSTS reporting option will bring up the reporting submenu shown in Figure 4-12.

```

Select number or return to quit: (1-6): 4
BSTS REPORTING

Select the information to display

1. Current BSTS status display
2. BSTS codeset versions
3. Current BSTS processing queue
4. BSTS process history
5. BSTS error listing
6. All of the above information

Select number or return to quit: (1-6):

```

Figure 4-12: BSTS reporting submenu

Sections of the BSTS report information can be run individually by selecting options **1** through **5**. Running option **6** displays all BSTS reporting information. See Figure 4-13 for a sample BSTS display.

```

Select number or return to quit: (1-6): 6

Display completed processes from date: : T-7//

Display error listing from date: : T-7//

Maximum number of errors to return: : (1-9999): 25//
DEVICE: HOME// 0;80;9999 Virtual

Current Server Status:

Web Service:      PRODUCTION
Current Status:   ONLINE
Offline Until:    N/A
Last Error Message: N/A

```

Current Server Settings:

Site Parameters

NAME: 2013 DEMO HOSPITAL
 REFRESH SUBSETS EVERY # DAYS:
 LAST UPDATE CHECKS COMPLETED: APR 25, 2017

 WEB SERVICE: PRODUCTION
 PRIORITY: 1
 DAYS TO KEEP ERR RESPONSES:

Selected Web Service

NAME: PRODUCTION
 URL ROOT: https://dtsservices.ihs.gov
 PORT NUMBER: 44200
 TYPE: DTS4
 TIMEOUT OVERRIDE: 60
 CURRENT VERSION:
 USERNAME: DTSUser
 PASSWORD: DTSPW!
 INACTIVE:
 INACTIVE DATE:
 SERVICE PATH: /soap
 CONNECTION TIMEOUT OVERRIDE: 4
 CHECK FOR DTS CONNECTION ON:
 CHECK FOR CONNECTION AFTER:
 MAXIMUM REMOTE SEARCH TIME:
 SSL/TLS CONFIGURATION: SNOMEDServer
 RETRIES ON FAILURE:
 MAX FAILURES BEFORE WAITING: 2
 UPDATE FAILURE WAIT TIME: 1

Current BSTS Codeset Version Information:

CODE	CODESET	CURRENT VERSION	COMPLETED CHECKS	SUBSET RUN
10	ICD-9-CM-C1			
36	SCTUSEXT	20160901	04/25/17	04/17/17
1552	RXNORMR	20141103	04/25/17	03/08/17
5102	LOINC-3			
5140	ICD10CM			
5180	UNII	201300910	04/25/17	
17161	SCT-US-MAP_ICD9CM			
32768	32768			
32769	N32769			
32771	32771	1	04/25/17	
32772	32772	5	04/25/17	
32773	32773	3	04/25/17	
32774	32774	4	04/25/17	
32775	32775	1	04/25/17	
32777	32777	20	04/25/17	
32778	32778	1	12/04/15	
32779	32779	18	04/25/17	

```

32780 32780          7          04/25/17
35290 SCT-US-MAP_ICD10CM
35291 SCT-US-MAP_ICD9CM

Current BSTS Processing Queue:

No entries currently scheduled to run

Scheduled TaskMan BSTS processes:
(It is normal for a process to be scheduled to run more than once)

TASKMAN TASK          SCHEDULED          RUN AT
PROC^BSTSVOFL         04/25/17@09:43    04/25/17@18:02
CHECK^BSTSVRSN        04/25/17@12:16    04/26/17@10:30

BSTS Processing History: 04/18/17 to present

UPDATE                SCHEDULED          STARTED            COMPLETED
STATUS^BSTSAPIL       04/25/17@12:16    04/25/17@12:25    04/25/17@12:25
EPURGE^BSTSVOFL       04/25/17@12:16    04/25/17@12:25    04/25/17@12:25
CDST^BSTSVRSC:32774   04/25/17@12:16    04/25/17@12:24    04/25/17@12:25
CDST^BSTSVRSC:32772   04/25/17@12:16    04/25/17@12:17    04/25/17@12:24
STATUS^BSTSAPIL       04/25/17@09:43    04/25/17@12:02    04/25/17@12:02
EPURGE^BSTSVOFL       04/25/17@09:43    04/25/17@12:02    04/25/17@12:02
STATUS^BSTSAPIL       04/24/17@10:32    04/24/17@18:02    04/24/17@18:02
EPURGE^BSTSVOFL       04/24/17@10:32    04/24/17@18:02    04/24/17@18:02
STATUS^BSTSAPIL       04/23/17@10:32    04/23/17@18:02    04/23/17@18:02
EPURGE^BSTSVOFL       04/23/17@10:32    04/23/17@18:02    04/23/17@18:02
STATUS^BSTSAPIL       04/22/17@10:32    04/22/17@18:02    04/22/17@18:02
EPURGE^BSTSVOFL       04/22/17@10:32    04/22/17@18:02    04/22/17@18:02
STATUS^BSTSAPIL       04/21/17@10:32    04/21/17@18:02    04/21/17@18:02
EPURGE^BSTSVOFL       04/21/17@10:32    04/21/17@18:02    04/21/17@18:02
STATUS^BSTSAPIL       04/20/17@10:32    04/20/17@18:02    04/20/17@18:02
EPURGE^BSTSVOFL       04/20/17@10:32    04/20/17@18:02    04/20/17@18:02
STATUS^BSTSAPIL       04/19/17@10:32    04/19/17@18:02    04/19/17@18:02
EPURGE^BSTSVOFL       04/19/17@10:32    04/19/17@18:02    04/19/17@18:02
STATUS^BSTSAPIL       04/18/17@10:32    04/18/17@18:02    04/18/17@18:02
EPURGE^BSTSVOFL       04/18/17@10:32    04/18/17@18:02    04/18/17@18:02

BSTS error listing: 04/18/17 to present. Last 25 errors

ERROR DATE          ERROR MESSAGE
04/25/17@12:25     DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
                    to server dtsservices.ihs.gov:44299~4.022202
04/25/17@12:25     DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
                    to server dtsservices.ihs.gov:44299~4.017057
04/25/17@12:25     DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
                    to server dtsservices.ihs.gov:44299~4.037211
04/25/17@12:24     DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
                    to server dtsservices.ihs.gov:44299~4.008934
04/25/17@12:24     DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket

```

```
to server dtsservices.ihs.gov:44299~4.012815
04/25/17@12:23  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.014758
04/25/17@12:23  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.036642
04/25/17@12:22  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.046885
04/25/17@12:21  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.02354
04/25/17@12:21  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.017124
04/25/17@12:21  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.03445
04/25/17@12:19  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.048073
04/25/17@12:19  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.010828
04/25/17@12:19  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.029613
04/25/17@12:19  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.033443
04/25/17@12:18  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.009852
04/25/17@12:18  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.016002
04/25/17@12:17  DETAIL~BSTSCMCL: 0~ERROR #6059: Unable to open TCP/IP
socket
to server dtsservices.ihs.gov:44299~4.047297

<END OF REPORT>

Press 'Return to continue':
```

Figure 4-13: BSTS option 6 – display all BSTS information

5.0 Routine

5.1 Routines with Description

This routine list describes each routine in this version.

Table 5-1: Routine descriptions

Routine	Description	Included in Version 2.0 Patch 3 Release
BSTS10P1	Pre/Post-Installation routine for Patch 1	
BSTS10P2	Pre/Post-Installation routine for Patch 2	
BSTS10P3	Pre/Post-Installation routine for Patch 3	
BSTS10P4	Pre/Post-Installation routine for Patch 4	
BSTS10P6	Pre/Post-Installation routine for Patch 6	
BSTS10P7	Pre/Post-Installation routine for Patch 7	
BSTS10P8	Pre/Post-Installation routine for Patch 8	
BSTS2P01	Pre/Post-Installation routine for Version 2.0 Patch 1	
BSTS2P02	Pre/Post-Installation routine for Version 2.0 Patch 2	
BSTS2P03	Pre/Post-Installation routine for Version 2.0 Patch 3	Yes
BSTS10PH	Hot fix environmental checking routine	
BSTS1POS	Pre/Post-Installation routine for version 1.0 release	
BSTS2PRE	Pre-Installation and environmental checking routine for Version 2.0 release	
BSTS2PST	Post-installation routine for Version 2.0 release	
BSTSAPI	Main API front end routine	
BSTSAPIA	API program routine	
BSTSAPIB	API program routine	
BSTSAPIC	API program routine	Yes
BSTSAPID	API program routine	Yes
BSTSAPIF	API program routine	
BSTSAPIL	API program routine	Yes
BSTSCDET	Routine which returns detail information for selected concepts	Yes
BSTSCFIX	Description Id population utility routine	
BSTSCLAS	BSTS class delivery routine	
BSTSCMCL	Routine containing Caché method calls	Yes
BSTSDSP	BSTS Status option utility routine	Yes
BSTSDTS0	Routine for DTS specific processing	Yes
BSTSDTS1	Second routine for DTS specific processing	

Routine	Description	Included in Version 2.0 Patch 3 Release
BSTSDTS2	Third routine for DTS specific processing	
BSTSDTS3	Fourth routine for DTS specific processing	Yes
BSTSDTS4	Fifth routine for DTS specific processing	Yes
BSTSDTS5	Sixth routine for DTS specific processing	Yes
BSTSDTSC	Seventh routine for DTS specific processing	
BSTSDTSM	Routine dealing with DTS mappings	Yes
BSTSLKP	Local lookup routine	
BSTSLSRC	Local SNOMED lookup routine	
BSTSMAP1	Routine to handle conditional SNOMED to ICD10 mappings	
BSTSMSR	Routine to calculate measurements used by conditional logic	
BSTSNDET	Contains documentation for detailed API information returned	
BSTSRPC	RPC SNOMED search call.	
BSTSRPC1	RPC SNOMED search overflow routine	Yes
BSTSRPCU	RPC SNOMED search overflow routine	
BSTSRPT	Inactive concept/term processing routine	
BSTSSRCH	Routine containing search logic and concept detail retrieval	
BSTSSTA	DTS status check routine	Yes
BSTSTST	DTS testing option routine	
BSTSUPD	Routine to update DTS parameters	
BSTSUPRF	User preference handling routine	
BSTSUTIL	BSTS utility function routine	Yes
BSTSUTL0	BSTS additional utility function routine	Yes
BSTSVICD	Routine to handle retired ICD-10 codes	
BSTSVOF1	Custom codeset version handling routine 4	Yes
BSTSVOFL	Custom codeset version handling routine 3	Yes
BSTSVRSC	Custom codeset version handling routine 2	Yes
BSTSVRSN	Version and subset handling routine 1	Yes
BSTSVRXN	RxNorm concept update routine	Yes
BSTSVUP0	DTS update overflow routine	Yes
BSTSWSV	Routine used to retrieve web service connection information	Yes
BSTSWSV1	Second routine used to retrieve web service connection information	Yes

Routine	Description	Included in Version 2.0 Patch 3 Release
BSTSXREF	Routine to set/kill custom BSTS file cross-references	

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 OUT parameter.

Parameter: IN

Data Type: String (Optional)

Description:

Search String [1]^Search Type [2]^Namespace ID [3]^Filter Subset [4]^Date to Check [5]^Maximum Number Concepts [6]^Return Info [7]^Add/Retire Date [8]^Batch Return [9]^Batch Return Concept Number [10]^Local [11]^Debug [12]^Mapping Parameters [13]

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)

- **Filter Subset** (Optional). Subsets to filter on – separate multiple subsets using “~”. For “IHS SNOMED” (36) lookups, default to “IHS Problem List”. For “ALL SNOMED” lookups, passing “ALL” returns all allowable IHS PROBLEM ALL SNOMED subset terms.
- **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/ICD10
 - C. Children
 - A. Associations
 - V. Inv. Associations
- **Add or Retire Date Information** (Optional). Pass 1 to *not* return date information
- **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
- **Mapping Parameters** (Optional). Pass in delimited mapping parameter information to control the ICD-10 map values that get returned. Ex. EPI=288527008;VST=2087394;AF=With;PRB=50239

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
- **ICD Information - Multiple Records Returned (CTR)** – ICD-9 or ICD-10 will be returned in this section based on the date in the “Date to Check” input parameter (#5). If date is after the ICD-10 implementation date found in file 80.4, ICD-10 information will get returned. Otherwise ICD-9 information will get returned. Note that the values getting returned may change based on information passed into the call in the Mapping Parameters input piece:
 - VAR(,"ICD",CTR,"COD")=ICD9/ICD10 Code
 - VAR(,"ICD",CTR,"TYP")=Code Type(IC9 or 10D)
 - VAR(,"ICD",CTR,"XADT")=Date Added
 - VAR(,"ICD",CTR,"XRDT")=Date Retired
- **Legacy ICD-9** – Legacy ICD-9 information will always get returned in this node:
 - VAR(,"IC9",CTR,"COD")=ICD9 Code
 - VAR(,"IC9",CTR,"TYP")=Code Type(IC9)
 - VAR(,"IC9",CTR,"XADT")=Date Added
 - VAR(,"IC9",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
- **Prompt for Abnormal Findings** (1 – Yes/0 – No):
 - VAR(,"ABN")=1/0
- **Prompt for Laterality** (1 – Yes/0 – No):

- VAR(,"LAT")=1/0
- **Fracture Healing Choices** (RD, RDN, RDNM, Null – No fracture healing):
 - VAR(,"HEAL")=RD/RDN/RDNM/Null
- **Is Concept a Designated Common Term** (1 – Yes/0 – No):
 - VAR(,"CMN")=1/0
- **Is Concept in the IHS PROBLEM ALL SNOMED subset** (1 – Yes/0 – No):
 - VAR(,"PAS")=1/0
- **Equivalent Concept Children:**
 - VAR(,"EQC",CTR,"CON")=Child Concept ID
 - VAR(,"EQC",CTR,"DTS")=Child DTSID
 - VAR(,"EQC",CTR,"XADT")=Child Date Added
 - VAR(,"EQC",CTR,"XRDT")=Child Date Retired
- **Equivalent Concept Match:**
 - VAR(,"EQM",,"LAT")=Laterality
 - VAR(,"EQM",,"DTS")=DTSID
 - VAR(,"EQM",,"CON")=Concept ID
 - VAR(,"EQM",,"XADT")=Date Added
 - VAR(,"EQM",,"XRDT")=Date Retired
- **Interface Term:**
 - VAR(,"CTM",,"TRM")=Interface Term
 - VAR(,"CTM",,"DSC")=Interface Term Description ID

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 [1]^Debug [2]

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 [1]^Local [2]^Debug [3].

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

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 [1]^Local [2]^Debug [3]

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 [1]^Local [2]^Exclude Info [3]^Debug [4]

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 [1]^Local [2]^Debug [3]

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 [1]^Namespace ID [2]^Local [3]^Debug [4]^Interface Term[5]

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.
- **Interface Term** (Optional). Pass **1** to return Interface Term (if available) instead of preferred term

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 [1]^Codeset ID [2]^Snapshot Date [3]^Local [4]^Debug [5]^Mapping Parameters [6]

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.
- **Mapping Parameters** (Optional). Pass in delimited mapping parameter information to control the ICD-10 map values that get returned. Ex. EPI=288527008;VST=2087394;AF=With;PRB=50239

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
- **ICD Information** - Multiple Records Returned (CTR) – ICD-9 or ICD-10 will be returned in this section based on the date in the “Date to Check” input parameter (#5). If date is after the ICD-10 implementation date found in file 80.4, ICD-10 information will get returned. Otherwise ICD-9 information will get returned. Note that the values getting returned may change based on information passed into the call in the Mapping Parameters input piece:
 - VAR(,"ICD",CTR,"COD")=ICD9/ICD10 Code
 - VAR(,"ICD",CTR,"TYP")=Code Type(IC9 or 10D)
 - VAR(,"ICD",CTR,"XADT")=Date Added
 - VAR(,"ICD",CTR,"XRDT")=Date Retired
- **Legacy ICD-9** – Legacy ICD-9 information will always get returned in this node:
 - VAR(,"IC9",CTR,"COD")=ICD9 Code
 - VAR(,"IC9",CTR,"TYP")=Code Type(IC9)
 - VAR(,"IC9",CTR,"XADT")=Date Added
 - VAR(,"IC9",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)** - Returned (Multiple Records 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
- **Prompt for Abnormal Findings** (1 – Yes/0 – No):
 - VAR(,"ABN")=1/0
- **Prompt for Laterality** (1 – Yes/0 – No):
 - VAR(,"LAT")=1/0
- **Fracture Healing Choices** (RD, RDN, RDNM, Null – No fracture healing):
 - VAR(,"HEAL")=RD/RDN/RDNM/Null
- **Is Concept a Designated Common Term** (1 – Yes/0 – No):
 - VAR(,"CMN")=1/0
- **Is Concept in the IHS PROBLEM ALL SNOMED subset** (1 – Yes/0 – No):
 - VAR(,"PAS")=1/0
- **Equivalent Concept Children:**
 - VAR(,"EQC",CTR,"CON")=Child Concept ID
 - VAR(,"EQC",CTR,"DTS")=Child DTSID
 - VAR(,"EQC",CTR,"XADT")=Child Date Added
 - VAR(,"EQC",CTR,"XRDT")=Child Date Retired
- **Equivalent Concept Match:**
 - VAR(,"EQM","LAT")=Laterality
 - VAR(,"EQM","DTS")=DTSID
 - VAR(,"EQM","CON")=Concept ID
 - VAR(,"EQM","XADT")=Date Added

- VAR(,"EQM","XRDT")=Date Retired

- **Interface Term:**

- VAR(,"CTM","TRM")=Interface Term
- VAR(,"CTM","DSC")=Interface Term Description ID

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 [1]^Subset [2]^Codeset ID [3]^Local^Debug [4]

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 listing.
- **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 [1]^Codeset ID [2]^Snapshot Date [3]^Local [4]^Debug [5]^Mapping Parameters [6]

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
- **Mapping Parameters (Optional).** Pass in delimited mapping parameter information to control the ICD-10 map values that get returned. Ex. EPI=288527008;VST=2087394;AF=With;PRB=50239

Parameter: VAR

Data Type: String List

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

- **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

- **ICD Information** - Multiple Records Returned (CTR) – ICD-9 or ICD-10 will be returned in this section based on the date in the “Date to Check” input parameter (#5). If date is after the ICD-10 implementation date found in file 80.4, ICD-10 information will get returned. Otherwise ICD-9 information will get returned. Note that the values getting returned may change based on information passed into the call in the Mapping Parameters input piece:
 - VAR(#, "ICD", CTR, "COD")=ICD9/ICD10 Code
 - VAR(#, "ICD", CTR, "TYP")=Code Type(IC9 or 10D)
 - VAR(#, "ICD", CTR, "XADT")=Date Added
 - VAR(#, "ICD", CTR, "XRDT")=Date Retired
- **Legacy ICD-9** – Legacy ICD-9 information will always get returned in this node:
 - VAR(#, "IC9", CTR, "COD")=ICD9 Code
 - VAR(#, "IC9", CTR, "TYP")=Code Type(IC9)
 - VAR(#, "IC9", CTR, "XADT")=Date Added
 - VAR(#, "IC9", 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
- **Prompt for Abnormal Findings (1 – Yes/0 – No):**
 - VAR(,"ABN")=1/0
- **Prompt for Laterality (1 – Yes/0 – No):**
 - VAR(,"LAT")=1/0
- **Fracture Healing Choices (RD, RDN, RDNM, Null – No fracture healing):**
 - VAR(,"HEAL")=RD/RDN/RDNM/Null

- **Is Concept a Designated Common Term** (1 – Yes/0 – No):
 - VAR(#, "CMN")=1/0
- **Is Concept in the IHS PROBLEM ALL SNOMED subset** (1 – Yes/0 – No):
 - VAR(#, "PAS")=1/0
- **Equivalent Concept Children:**
 - VAR(#, "EQC", "CTR", "CON")=Child Concept ID
 - VAR(#, "EQC", "CTR", "DTS")=Child DTSID
 - VAR(#, "EQC", "CTR", "XADT")=Child Date Added
 - VAR(#, "EQC", "CTR", "XRDT")=Child Date Retired
- **Equivalent Concept Match:**
 - VAR(#, "EQM", "LAT")=Laterality
 - VAR(#, "EQM", "DTS")=DTSID
 - VAR(#, "EQM", "CON")=Concept ID
 - VAR(#, "EQM", "XADT")=Date Added
 - VAR(#, "EQM", "XRDT")=Date Retired
- **Interface Term:**
 - VAR(#, "CTM", "TRM")=Interface Term
 - VAR(#, "CTM", "DSC")=Interface Term Description ID

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 [1]^Codeset ID [2]^Snapshot Date [3]^Local [4]^Debug [5]^TBYPASS [6]^Mapping Parameters [7]

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)
- **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.
- **TBYPASS (System Use Only) -** Pass **1** to bypass server timeout checks, otherwise leave blank. Do not use for regular calls.
- **Mapping Parameters (Optional).** Pass in delimited mapping parameter information to control the ICD-10 map values that get returned. Ex. EPI=288527008;VST=2087394;AF=With;PRB=50239

Parameter: VAR**Data Type:** String List**Description:** The VAR(#) list of records returns the following sections:

- **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
- **ICD Information - Multiple Records Returned (CTR) – ICD-9 or ICD-10** will be returned in this section based on the date in the “Date to Check” input parameter (#5). If date is after the ICD-10 implementation date found in file 80.4, ICD-10 information will get returned. Otherwise ICD-9 information will get returned. Note that the values getting returned may change based on information passed into the call in the Mapping Parameters input piece:
 - VAR(,"ICD",CTR,"COD")=ICD9/ICD10 Code
 - VAR(,"ICD",CTR,"TYP")=Code Type(IC9 or 10D)
 - VAR(,"ICD",CTR,"XADT")=Date Added
 - VAR(,"ICD",CTR,"XRDT")=Date Retired
- **Legacy ICD-9 information will always get returned in this node:**
 - VAR(,"IC9",CTR,"COD")=ICD9 Code
 - VAR(,"IC9",CTR,"TYP")=Code Type(IC9)
 - VAR(,"IC9",CTR,"XADT")=Date Added
 - VAR(,"IC9",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
- **Prompt for Abnormal Findings (1 – Yes/0 – No):**
 - VAR(,"ABN")=1/0
- **Prompt for Laterality (1 – Yes/0 – No):**
 - VAR(,"LAT")=1/0
- **Fracture Healing Choices (RD, RDN, RDNM, Null – No fracture healing):**
 - VAR(,"HEAL")=RD/RDN/RDNM/Null
- **Is Concept a Designated Common Term (1 – Yes/0 – No):**
 - VAR(,"CMN")=1/0
- **Is Concept in the IHS PROBLEM ALL SNOMED subset (1 – Yes/0 – No):**
 - VAR(,"PAS")=1/0
- **Equivalent Concept Children:**
 - VAR(,"EQC",CTR,"CON")=Child Concept ID
 - VAR(,"EQC",CTR,"DTS")=Child DTSID
 - VAR(,"EQC",CTR,"XADT")=Child Date Added
 - VAR(,"EQC",CTR,"XRDT")=Child Date Retired
- **Equivalent Concept Match:**
 - VAR(,"EQM",,"LAT")=Laterality
 - VAR(,"EQM",,"DTS")=DTSID
 - VAR(,"EQM",,"CON")=Concept ID
 - VAR(,"EQM",,"XADT")=Date Added
 - VAR(,"EQM",,"XRDT")=Date Retired
- **Interface Term:**
 - VAR(,"CTM",,"TRM")=Interface Term
 - VAR(,"CTM",,"DSC")=Interface Term Description ID

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 [1]^Codeset ID [2]^Local [3]^Debug [4]^Snapshot Date [5]^Mapping Parameters [6]

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 Extension)
 - 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.
- **Snapshot Date.** Snapshot Date to check. Default Today's Date..
- **Mapping Parameters** (Optional). Pass in delimited mapping parameter information to control the ICD-10 map values that get returned. Ex. EPI=288527008;VST=2087394;AF=With;PRB=50239

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
- **ICD Information - Multiple Records Returned (CTR)** – ICD-9 or ICD-10 will be returned in this section based on the date in the “Date to Check” input parameter (#5). If date is after the ICD-10 implementation date found in file 80.4, ICD-10 information will get returned. Otherwise ICD-9 information will get returned. Note that the values getting returned may change based on information passed into the call in the Mapping Parameters input piece:
 - VAR(,"ICD",CTR,"COD")=ICD9/ICD10 Code
 - VAR(,"ICD",CTR,"TYP")=Code Type(IC9 or 10D)
 - VAR(,"ICD",CTR,"XADT")=Date Added
 - VAR(,"ICD",CTR,"XRDT")=Date Retired
- **Legacy ICD-9 information will always get returned in this node:**
 - VAR(,"IC9",CTR,"COD")=ICD9 Code
 - VAR(,"IC9",CTR,"TYP")=Code Type(IC9)
 - VAR(,"IC9",CTR,"XADT")=Date Added
 - VAR(,"IC9",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
- **Prompt for Abnormal Findings (1 – Yes/0 – No):**
 - VAR(,"ABN")=1/0
- **Prompt for Laterality (1 – Yes/0 – No):**
 - VAR(,"LAT")=1/0
- **Fracture Healing Choices (RD, RDN, RDNM, Null – No fracture healing):**
 - VAR(,"HEAL")=RD/RDN/RDNM/Null
- **Is Concept a Designated Common Term (1 – Yes/0 – No):**
 - VAR(,"CMN")=1/0
- **Is Concept in the IHS PROBLEM ALL SNOMED subset (1 – Yes/0 – No):**
 - VAR(,"PAS")=1/0
- **Equivalent Concept Children:**
 - VAR(,"EQC",CTR,"CON")=Child Concept ID
 - VAR(,"EQC",CTR,"DTS")=Child DTSID
 - VAR(,"EQC",CTR,"XADT")=Child Date Added
 - VAR(,"EQC",CTR,"XRDT")=Child Date Retired
- **Equivalent Concept Match:**
 - VAR(,"EQM",,"LAT")=Laterality
 - VAR(,"EQM",,"DTS")=DTSID
 - VAR(,"EQM",,"CON")=Concept ID
 - VAR(,"EQM",,"XADT")=Date Added
 - VAR(,"EQM",,"XRDT")=Date Retired
- **Interface Term:**
 - VAR(,"CTM",,"TRM")=Interface Term
 - VAR(,"CTM",,"DSC")=Interface Term Description ID

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 [1]^Codeset ID [2]^Snapshot Date [3]^Local [4]^Debug [5]^Mapping Parameters [6]

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.
- **Mapping Parameters** (Optional). Pass in delimited mapping parameter information to control the ICD-10 map values that get returned. Ex. EPI=288527008;VST=2087394;AF=With;PRB=50239

Parameter: <return value>

Data Type: String

Description: Result returned as:

FSN Desc ID [1]^FSN [2]^Pref Desc ID [3]^Pref Term [4]^Mapped ICD Values [5]^Mapped ICD9 Values [6]^Prompt for Abnormal/Normal Findings [7]^Prompt for Laterality [8]^Default Status [9]^Prompt for Healing [10]^List of Healing Choices to Display [11]

Values:

- **Description ID of Fully Specified Name**
- **Fully Specified Name**
- **Description ID of Preferred Term**
- **Preferred Term**
- **Mapped ICD Values (based on P3 Snapshot Date)** (‘;’ delimiter)
- **Mapped ICD9 Values** (‘;’ delimiter)
- **Prompt for Abnormal/Normal Findings** (1-Yes,0-No)
- **Prompt for Laterality** (1-Yes,0-No)
- **Default status** (Chronic, Personal History, Sub-acute, Admin, Social)
- **Prompt for Healing** (RDNM, RDN, RD)
- **List of healing choices to display** (ex. 717128007|NL Union;28087009|Delayed)

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 [1]^Codeset ID [2]^Local [3]^Debug [4]^Snapshot Date [5]^Mapping Parameters [6]

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.
- **Snapshot Date**. Snapshot Date to check. Default Today's Date.
- **Mapping Parameters** (Optional). Pass in delimited mapping parameter information to control the ICD-10 map values that get returned. Ex. EPI=288527008;VST=2087394;AF=With;PRB=50239

Parameter: <return value>

Data Type: String

Description: Result returned as:

Concept ID [1]^Term Description [2]^Mapped ICD Values [3]^Mapped ICD9 Values [4]^ Prompt for Abnormal/Normal Findings [5]^Prompt for Laterality [6]^Default Status [7]^Prompt for Healing [8]^List of Healing Choices to Display [9]

Values:

- **Concept ID**. The Concept ID associated with the specified Description ID.
- **Term Description**. The Term associated with the specified Description ID.
- **Mapped ICD Values (based on P3 Snapshot Date)** (;' delimiter)
- **ICD-9 list**. Delimited list of mapped ICD-9 codes (;' delimiter).
- **Prompt for Abnormal/Normal Findings** (1-Yes,0-No)
- **Prompt for Laterality** (1-Yes,0-No)
- **Default status** (Chronic, Personal History, Sub-acute, Admin, Social)
- **Prompt for Healing** (RDNM, RDN, RD)
- **List of healing choices to display** (ex. 717128007|NL Union;28087009|Delayed)

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 [1]^Subset Codeset ID [2]^Local [3]^Debug [4]

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 \$\$DILKP^BSTSAPI

This API takes accepts a National Drug Code (NDC) or VA Unique Identifier (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 [1]^Type [2]^Local [3]^Debug [4]^TBYPASS [5]

Values:

- **Code.** The NDC or VUID code to lookup.
- **Type.** Pass:
 - **N** for NDC lookup
 - **V** for VUID lookup
- **Local** (Optional). Pass **1** to perform local listing, otherwise leave blank for remote listing.
- **Debug** (Optional). Pass **1** to display debug information.
- **TBYPASS** (System Use Only) - Pass **1** to bypass server timeout checks, otherwise leave blank. Do not use for regular calls.

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).

5.2.17 \$\$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 [1]^Codeset ID [2]^Snapshot Date [3]^Local [4]^Debug [5]

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)

Table 5-2: Returned string definition

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)

5.2.18 \$\$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 [1]^Type Local [2]^Debug [3]

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

5.2.19 \$\$I10ADV^BSTSAPI

This API will return formatted 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 [1]^Local [2]^Exclude Info [3]^Debug [4]

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(#)=Formatted Mapping Advice

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)

5.2.20 EQUIV^BSTSAPI

This API will return any concepts which match (whether via an exact match or a related match) to the concept/laterality input into the API.

Parameter: OUT

Data Type: Array

Description: Output array containing exact or related concept matches. Format: OUT(#) = Matching Concept Id [1] ^ Matching Laterality Attribute|Qualifier [2] ^ Exact Match (1/0) [3] ^ Input Entry is Lateralized or is an Equivalent Lateralized Concept (1/0) [4]

Parameter: IN

Data Type: String (Optional)

Description:

The Concept ID [1] ^ Laterality Attribute|Qualifier

5.2.21 RCONC^BSTSAPI

This routine accepts a concept and namespace ID and returns a list of possible replacement concepts if it is retired.

Input:

Parameter: CONC

Data Type: String

Description: Concept ID to return replacement information for:

Parameter: NMID

Data Type: String (Optional)

Description: The namespace ID of the concept. The default is 36 (SNOMED)

Parameter: BSTSRET

Data Type: Array

Description: Return variable array

Output:

If concept still active:

BSTSRET=Passed in Concept ID [1]^Preferred Term of Passed in Concept ID [2]^Preferred Desc ID of Passed in Concept ID [3]

If exact match:

BSTSRET=Exact Match (EM) Concept ID [1]^EM Preferred Term [2]^EM Preferred Desc ID [3] ^EM Type, where: EM Type = R - Replaced By, S - Same As [4]

If no single exact match but possible match(es) available:

BSTSRET=""

BSTSRET(#)=Possible Replacement (PR) Concept ID [1]^PR Preferred Term [2]^PR Preferred Desc ID [3] ^PR Type, where: PR Type = R - Replaced By, S - Same As, M - May be a [4]

If inactive and no matches available:

BSTSRET=""

Sample call:

```
>D RCONC^BSTSAPI(495003,36,.RET) ZW RET
```

```
RET="715052003^Disease caused by Capripoxvirus^3301304017^R"
```

5.2.22 RTERM^BSTSAPI

This routine accepts a Description ID and Namespace ID and returns a possible replacement if the term has been retired.

Input:

Parameter: DESCID

Data Type: String

Description: Description ID to return replacement information for

Parameter: NMID

Data Type: String (Optional)

Description: The namespace ID of the concept. The default is 36 (SNOMED)

Parameter: BSTSRET

Data Type: Array

Description: Return variable array

Output:

If term and underlying concept are still active:

BSTSRET=Passed in Description ID [1]^Term of Passed in Description ID [2] ^
Concept ID of Passed in Term [3]

If term is inactive but underlying concept is still active:

BSTSRET=Preferred Term Description ID of Underlying Concept [1] ^Preferred
Term of Underlying Concept [2] ^Concept ID of Passed in Term [3]

If both term and underlying concept are inactive it will try to identify an exact replacement concept. If one is found:

1) It will first look for an exact match on the original term. If found:

BSTSRET=New Description ID of Exact Term [1]^Exact Term [2]
^Replacement Concept ID [3]

2) If no exact match on original term is found:

BSTSRET=Description ID of Preferred Term of Replacement Concept
[1]^Preferred Term of Replacement Concept [2]^Replacement Concept ID [3]

If an exact replacement is not found but multiple replacements are:

BSTSRET=""

BSTSRET(#)=Possible Replacement (PR) Description ID [1]^PR Term [2]

^PR Concept ID [3]^PR Type, where: PR Type = R - Replaced By, S - Same As,
M - May be a [4]

Sample call:

```
>D RTERM^BSTSAPI(1908012,36,.RET) ZW RET
```

```
RET="3301304017^Disease caused by Capripoxvirus^715052003"
```

5.2.23 \$\$CVPARM^BSTSMAP1

EHR, in some situations, uses a synonym of a concept in its display instead of the preferred term. For example, instead of using the preferred term of 'Right and left' to represent concept 51440002, it displays 'Bilateral'. This API will return the term EHR utilizes for the input concept id. *Note that this API does not work for all concepts, just those that are used by EHR and the mapping logic.

Parameter: OUT

Data Type: String

Description: The converted term to display for the input concept

Parameter: TYPE

Data Type: String (Optional)

Description: The category of the input concept. Acceptable inputs are EPI (episodicity), LAT (laterality), AF (abnormal finding), SEV (severity)

Parameter: PARM

5.3 File List

The following table contains a list of files included with BSTS v2.0:

Table 5-3: File list

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.
9002318.6	BSTS SNOMED MAPPING CONV	This file contains a list of custom SNOMED concept and term mappings.
9002318.7	BSTS USER PREFERENCES	This file contains SNOMED lookup utility user preference information.

5.4 File Access

The following table contains the FileMan access to new files:

Table 5-4: FileMan access

File #	Filename	GL	RD	WR	LYG	DD	DEL
9002318	BSTS SITE PARAMETERS	^BSTS(9002318,	@	@	@	@	@

File #	Filename	GL	RD	WR	LYG	DD	DEL
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(@	@	@	@	@
9002318.6	BSTS SNOMED MAPPING CONV	^BSTS(9002318.6,	@	@	@	@	@
9002318.7	BSTS USER PREFERENCES	^BSTS(9002318.7,	@	@	@	@	@

5.5 Cross References

9002318 (BSTS SITE PARAMETERS)

.01 NAME

B Regular type cross reference

1 WEB SERVICE (multiple)

.01 WEB SERVICE

B Regular type cross reference

.02 PRIORITY

C Regular type cross reference

9002318.1 (BSTS CODESET)

.01 ID

B Regular type cross reference

.02 CODE

C Regular type cross reference

.03 NAME

D Regular type cross reference

1 VERSION (multiple)

B Regular type cross reference

9002318.2 (BSTS WEB SERVICE ENDPOINT)

.01 NAME

B Regular type cross reference

1 VERSION

.01 VERSION

B Regular type cross reference

5 ERROR LOG

.01 ERROR DATE

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

2 MAP ADVICE (multiple)

.01 NUMBER

B Regular type cross reference

1 MAPADVICE (multiple)

.01 MAPADVICE

B Regular type cross reference

2 MAP TARGET NAME (multiple)

.01 MAP TARGET NAME

B Regular type cross reference
 3 MAP RULE (multiple)
 .01 MAP RULE
 B Regular type cross reference
 4 MAP CATEGORY VALUE (multiple)
 .01 MAP CATEGORY VALUE
 B Regular type cross reference
 3 ICD MAPPING (multiple)
 .01 COUNTER
 B Regular type cross reference
 .02 CODE
 C CONCEPT ID, CODE, IEN
 F CODESET, CODE, IEN
 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
 5 IS A RELATIONSHIP (multiple)
 .01 IS A RELATIONSHIP
 B Regular type cross reference
 6 SUBCONCEPTS (multiple)
 .01 SUBCONCEPTS
 B Regular type cross reference
 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

9 ASSOCIATIONS (multiple)

.01 CODE

B Regular type cross reference

11 INVERSE ASSOCIATIONS (multiple)

.01 CODE

B Regular type cross reference

12 TTY (multiple)

.01 TTY

B Regular type cross reference

13 ICD9 TO SNOMED MAP (multiple)

.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

J Regular type cross reference for entire file

New Style Cross References

EXTERNAL CODESET, CONCEPT

ID, VARIABLE, CIEN, CIEN1, CIEN2

14 ICD10 CONDITIONAL MAPPING (multiple)

.01 COUNTER

B Regular type cross reference

1 CONDITION (multiple)

.01 VARIABLE

B Regular type cross reference

J MUMPS New Style Cross References

CODESET, CONCEPT ID, VARIABLE, CIEN1, CIEN2

15 EQUIVALENT CONCEPT CHILDREN (multiple)

.01 LATERALITY

B Regular type cross reference

17 REPLACEMENT CONCEPTS

.01 REPLACEMENT CONCEPT ID

B Regular type cross reference

9002318.5 (BSTS CACHE CLASS TRANSPORT)

.01 PACKAGE NAME

B Regular type cross reference

11 CLASS (multiple)

.01 CLASS

B Regular type cross reference

9002318.6 (BSTS SNOMED MAPPING CONV)

.01 PARAMETER

B Regular type cross reference

C Regular type cross reference for entire file

New Style Cross Reference

PARAMETER, SNOMED CONCEPT ID, CONVERSION VALUE, IEN

D Regular type cross reference for entire file

New Style Cross Reference

PARAMETER, CONVERSION VALUE, SNOMED CONCEPT ID, IEN

9002318.7 (BSTS USER PREFERENCES)

.01 USER

B Regular type cross reference

1 NAMESPACE (multiple)

B Regular type cross reference

5.6 Table File

File: 9002318 BSTS SITE PARAMETERS

Global: ^BSTS(9002318,

Table 5-5: BSTS Site parameters

Field #	Field Name	Subscript	Piece	Type
.01	NAME	D0,0	1	P
.02	REFRESH SUBSETS EVERY # DAYS	"	2	N
.03	LAST UPDATE CHECKS COMPLETED	"	3	D
1	WEB SERVICES (9002318.01)	D0,1,D1,0		
.01	WEB SERVICE	"	1	P
.02	PRIORITY	"	2	N
.03	DAYS TO KEEP ERR RESPONSES	"	3	N

File: 9002318.1 BSTS CODESET

Global: ^BSTS(9002318.1,

Table 5-6: BSTS Codeset

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

Field #	Field Name	Subscript	Piece	Type
.07	TASK NUMBER	"	7	F
.08	SUBSET TASK NUMBER	"	8	F
.09	ICD2SMD TASK NUMBER	"	9	F
.1	LAST SUBSET RUN	"	10	D
1	VERSION (9002318.11)	D0,1,D1,0		
.01	ID	"	1	F
.02	NAME	"	2	F
.03	RELEASE DATE	"	3	D
.04	INSTALLED DATE	"	4	D

File: 9002318.2 BSTS WEB SERVICE ENDPOINT

Global: ^BSTS(9002318.2,

Table 5-7: BSTS Web Service Endpoint

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
.13	CHECK FOR DTS CONNECTION ON	"	13	D
.14	CHECK FOR CONNECTION AFTER	"	14	N
.15	MAXIMUM REMOTE SEARCH TIME	"	15	N
.16	ENABLE SEARCH LOGGING	"	16	S
.17	PROCESS START TIME	"	17	F
1	VERSION (9002318.21)	D0,1,D1,0		
.01	VERSION	"	1	F
.02	DATE INSTALLED	"	2	D
2.01	SSL/TLS CONFIGURATION	D0,2	1	F

Field #	Field Name	Subscript	Piece	Type
3	LAST ERROR MESSAGE	D0,3	1	F
4.01	RETRIES ON FAILURE	D0,4	1	N
4.02	MAX FAILURES BEFORE WAITING	"	2	N
4.03	UPDATE FAILURE WAIT TIME	"	3	N
4.04	DAILY UPDATE CHECKS	"	4	S
4.05	LOG SELECTED CONCEPTS	"	5	S
4.06	HIDE CUSTOM SETTINGS	"	6	S
5	ERROR LOG (9002318.25)	D0,5,D1,0		
.01	ERROR DATE	"	1	D
.02	ERROR MESSAGE	"	2	F

File: 9002318.3 BSTS TERMINOLOGY

Global: ^BSTS(9002318.3,

Table 5-8: BSTS Terminology

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
.11	OUT OF DATE	"	11	S
.12	INTERFACE TERM	"	12	S
1	TERM	D0,1	1	F
10	FREQUENCY	D0,10	1	N

File: 9002318.4 BSTS CONCEPT**Global: ^BSTS(9002318.4,**

Table 5-9: BSTS Concept

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
.13	MAP OUT OF DATE	"	13	S
.14	DEFAULT STATUS	"	14	S
.15	GALAXY SUBSET	"	15	S
1	FULLY SPECIFIED NAME	D0,1	1	F
2	MAP ADVICE (9002318.42)	D0,2,D1,0		
.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
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

Field #	Field Name	Subscript	Piece	Type
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
6	SUBCONCEPTS (9002318.46)	D0,6,D1,0		
.01	SUBCONCEPTS	"	1	P
.02	REVISION IN	"	2	D
.03	REVISION OUT	"	3	D
7	NDC (9002318.47)	D0,7,D1,0		
.01	NDC	"	1	F
.02	REVISION IN	"	2	D
.03	REVISION OUT	"	3	D
8	VUID (9002318.48)	D0,8,D1,0		
.01	VUID	"	1	F
.02	REVISION IN	"	2	D
.03	REVISION OUT	"	3	D
9	ASSOCIATIONS (9002318.49)	D0,9,D1,0		
.01	CODE	"	1	F
.02	CODESET	"	2	F

Field #	Field Name	Subscript	Piece	Type
.03	CODE DTSID	"	3	F
10	FREQUENCY	D0,10	1	N
11	INVERSE ASSOCIATIONS (9002318.411)	D0,11,D1,0		
.01	CODE	"	1	F
.02	CODESET	"	2	F
.03	CODE DTSID	"	3	F
.03	CODE TERM	"	4	F
12	TTY (9002318.412)	D0,12,D1,0		
.01	TTY	"	1	F
.02	REVISION IN	"	2	D
.03	REVISION OUT	"	3	D
13	ICD9 TO SNOMED MAP (9002318.413)	D0,13,D1,0		
.01	ICD9 TO SNOMED MAP	"	1	F
14	ICD10 CONDITIONAL MAPPING (9002318.414)	D0,14,D1,0		
.01	COUNTER	"	1	N
.02	MAP GROUP	"	2	N
.03	MAP PRIORITY	"	3	N
.04	MAPPED ICD10 CODE	"	4	F
1	CONDITION (9002318.4141)	D0,14,D1,1,D2,0		
.01	VARIABLE	"	1	F
.02	OPERATOR	"	2	F
.03	VALUE	"	3	F
.04	DOWNLOADED CONDITION	"	4	F
15	EQUIVALENT CONCEPT CHILDREN (9002318.415)	D0,15,D1,1,D2,0		
.01	LATERALITY	"	1	F
.02	CONCEPT ID	"	2	F
.03	DTSID	"	3	F
.04	REVISION IN	"	4	D
.05	REVISION OUT	"	5	D
16.01	EQUIV CONCEPT LATERALITY	D0,16,0	1	F
16.02	EQUIV CONCEPT DTSID	"	2	F
16.03	EQUIV CONCEPT CONC ID	"	3	F
16.04	EQUIV CONCEPT REV IN	"	4	D

Field #	Field Name	Subscript	Piece	Type
17	REPLACEMENT CONCEPTS (9002318.417)	D0,17,D1,0		
.01	REPLACEMENT CONCEPT ID	"	1	F
.02	DTS ID	"	2	F
.03	REPLACEMENT TYPE	"	3	S
.04	CODESET	"	4	P
.05	REVISION IN	"	5	D
.06	REVISION OUT	"	6	D

File: 9002318.5 BSTS CACHE CLASS TRANSPORT

Global: ^BSTSCLS(

Table 5-10: BSTS Cache Class Transport

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,		
.01	XML	"	1	W
11	CLASS (9002318.511)	D0,11,D1		
.01	CLASS	"	1	F

File: 9002318.6 BSTS SNOMED MAPPING CONV

Global: ^BSTS(9002318.6,

Table 5-11: BSTS SNOMED Mapping Conv

Field #	Field Name	Subscript	Piece	Type
.01	PARAMETER	D0,0	1	S
.02	SNOMED CONCEPT ID	"	2	F
.03	CONVERSION VALUE	"	3	F

File: 9002318.7 BSTS USER PREFERENCES**Global: ^BSTS(9002318.7,**

Table 5-12: BSTS SNOMED Mapping Conv

Field #	Field Name	Subscript	Piece	Type
.01	USER	D0,0	1	P
1	NAMESPACE (9002318.71)	D0,1		
.01	NAMESPACE	"	1	P
.02	SEARCH TYPE	"	2	S
.03	RETURN RECORDS	"	3	S
.04	DISPLAY PARENTS/CHILDREN	"	4	S
.05	DIABLE AUTO-COMPLETE	"	5	S

5.7 Callable Routines

There are no remote procedure calls added in this release.

Table 5-13: Callable routines

Name	Tag	Routine
BSTS GET SUBSET LIST	SUBSET	BSTSRPC
BSTS ICD9 TO SNOMED	ICD2SMD	BSTSRPC
BSTS GET CODESETS	CDSET	BSTSRPC
BSTS GET CONCEPT DETAIL	DETAIL	BSTSRPC1
BSTS GET SUBSET LIST	SUBSET	BSTSRPC
BSTS GET USER PREFS	GET	BSTSUPRF
BSTS ICD9 TO SNOMED	ICD2SMD	BSTSRPC
BSTS LOG SELECTED CONCEPT	SELECT	BSTSRPC1
BSTS SET USER PREFS	SET	BSTSUPRF
BSTS SNOMED SEARCH	SEARCH	BSTSRPC
BSTS SEARCH TYPE AHEAD	TAHEAD	BSTSRPC1
BSTS SNOMED UNIVERSE SEARCH	USEARCH	BSTSRPC

5.8 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

VSBTMRF(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

I10ADV(OUT,IN) ; PEP - Returns Formatted ICD-10 mapping information for a specified Concept Id

EQUIV(OUT,IN) ;PEP – Returns equivalent laterality concepts for a given concept/laterality pair

RCONC(CONC,NMID,BSTSRET) ; PEP - Return replacement concept(s) for a concept

RTERM(DESCID,NMID,BSTSRET) PEP - Return replacement term and concept for a term

BSTSMAP1.INT

CVPARM(TYPE,PARM) ; Returns the converted term for a conditional parameter
SNOMED Concept Id

6.0 Internal Relations

All functions within this application work independently.

There are no documented internal relations in BSTS.

7.0 External Relations

7.1 External Calls

7.2 Callable Routines—Published Entry Points

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

7.3 Exported Options

Table 7-1: 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 LOCAL CACHE	Refreshes a custom codeset or the SNOMED subsets.
BSTS CHECK WEB SERVICE	Checks the status of the DTS server.
BSTS DESC ID UTILITY	Runs utility to fix invalid Description IDs
BSTS REFRESH SUBSETS (Replaced by BSTS REFRESH LOCAL CACHE option)	Performs a subset refresh
BSTSRPC	BMXNet Broker option

8.0 Archiving and Purging

DTS connection errors are logged in the **BSTS WEB SERVICE ENDPOINT** file. BSTS also contained functionality which will automatically purge this error information. Every night a background process will automatically run which will purge logged connection error information which is older than the number of days specified by the **BSTS SITE PARAMETERS** file **DAYS TO KEEP ERR RESPONSES** field. See Section 4.1.2 of this document for additional information on this parameter.

9.0 Documentation Resources

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

9.1 %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 IHS STANDARD TERMINOLOGY, type the BSTS namespace at the “Routine(s)?>” prompt.

9.2 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

10.0 SAC Requirements and Exemptions

The BSTS Version 2.0 Patch 1 release contains an approved SAC exemption. This exemption switches the user DUZ value of a PCC background process kicked off by BSTS updates from the regular user who unknowingly kicked off the update to a BSTS proxy user. Figure 10-1 shows the approved SAC exemption.

Request for Exemption to RPMS Programming Standards	
Developer:	GDIT (Brian Everett, Skip Squires) Date: 01/04/2017
Package:	IHS STANDARD TERMINOLOGY (BSTS)
Program:	BSTSV2p1
Line Number:	EX1 M ODUZ=DUZ K DUZ S DUZ=NDUZ D DUZ*XUP(.DUZ) D QUEUE*APCDPLFH K DUZ M DUZ=ODUZ
Applicable Standard:	
2.2.3.3 Assumed Variables - DUZ or DUZ-Array VistA/RPMS packages are not allowed to KILL, NEW, SET, MERGE, READ (into) or otherwise modify the variable DUZ or any DUZ array element, with the exception of DUZ(2) (Exemptions are Kernel and VA FileMan).	
Reason for Exemption:	
CR#8457-Regular EHR users unknowingly initiate daily BSTS checks when they perform a SNOMED lookup in EHR. Those checks can ultimately schedule tasks to perform BSTS mapping updates, which will run the PCC UIFS option. This option updates patient problem/FH entries and makes it appear as if the original EHR user made those changes (causing confusion at the sites). The request is to allow the process user to be changed to a BSTS-specific proxy account prior to calling the PCC UIFS option, so that regular EHR users would not show as having made the record changes.	
SACC Review Date: 1/31/2017	
Recommend	APPROVAL <input checked="" type="checkbox"/> DISAPPROVAL <input type="checkbox"/>
Duration:	1/12/17 - 1/31/17
Comments:	
Approved by the SAC Committee on 1/31/17.	
OIT Action Date:	
Request	APPROVED <input checked="" type="checkbox"/> DISAPPROVED <input type="checkbox"/>
Comments:	
<div style="display: flex; justify-content: space-between; align-items: center;"> jeanette.kompkoff@ihs.gov <div style="font-size: small;"> Digitally signed by jeanette.kompkoff@ihs.gov DN: cn=jeanette.kompkoff@ihs.gov Date: 2017.01.31 15:05:43 -0800 </div> Director, DIT (Acting) </div>	

Figure 10-1: SAC Exemption for BSTS version 2.0 patch 1, templates, forms, and protocols

10.1 Print Templates

There are no print templates in BSTS.

10.2 Sort Templates

There are no sort templates in BSTS.

10.3 Input Templates

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

10.4 List Templates

There are no list templates in BSTS.

10.5 Forms

There are no forms in BSTS.

10.6 Protocols

There are no protocols in BSTS.

11.0 SNOMED CT Search API

11.1 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 use 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 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.

The SNOMED CT Search API also uses 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).

11.2 SNOMED CT Search API RPMS Server Requirements

The RPMS server portion of the SNOMED CT Search 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.

11.3 List of SNOMED CT Search API Dependencies

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

Table 11-1: SNOMED CT search API dependencies

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 SNOMED CT Search allocation. The SNOMED CT Search 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 2.0 has been installed by other means.
BMXNet40.dll	4.0.0.0	This library file contains the general BMXNet 4.0 client-side utilities and functions for connecting to the RPMS server and managing data 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

11.4 SNOMED CT Search API—Install

The following table shows all of the files that are included in the SNOMED CT Search API zip file. Note that this dll is not delivered as part of the BSTS release but instead is delivered with other applications that utilize the utility.

Table 11-2: SNOMED CT search API installed files

Filename	Assembly Version	Description
IndianHealthService.SNOMEDCTSearch	1.0.8.2	This main SNOMED CT Search dll provides access to search methods.
BMXNET40.dll	4.0.0.0	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:

Table 11-3: Enhanced UI files

Filename	Assembly Version	Description
Infragistics2.Shared.v10.3.dll	10.3.20103.1000	This file contains general functions and types common to all of the Infragistics controls.
Infragistics2.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.
Infragistics2.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.
Infragistics2.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.
Infragistics2.Win.UltraWinToolbars.v10.3.dll	10.3.20103.1000	This file contains classes to handle the toolbars, menu and context menus (right-click) within Windows forms.
Infragistics2.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.

11.5 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`.

Table 11-4: SNOMED CT new object classes

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.
Laterality	IndianHealthService.SNOMEDCTSearch.dll	Laterality class provides a view to allow SNOMED CT lookup to prompt a user for laterality associated with a SNOMED CT term.

11.6 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`.

Table 11-5: SNOMED CT properties by class

Class Name	Property	Description
DSNOMEDCTLookup	ConceptID	SNOMED CT Concept ID Data Type: System.String
DSNOMEDCTLookup	DefaultStatus	Default status for selected SNOMED CT term, if applicable i.e., Chronic, Sub-acute, Episodic, Inactive, Personal History Data Type: System.String
DSNOMEDCTLookup	DefaultSubset	List of subsets to use for the subset listbox. Overrides the default values provided by SNOMED CT Search API. Data Type: System.Collections.ArrayList
DSNOMEDCTLookup	Description	SNOMED CT Description Data Type: System.String
DSNOMEDCTLookup	DescriptionID	SNOMED CT Description ID Data Type: System.String
DSNOMEDCTLookup	DisplayLaterality	Returns 1 if Laterality should be displayed. Pass thru to let calling application know if Laterality should be displayed. Data Type: System.Int32

Class Name	Property	Description
DSNOMEDCTLlookup	EnableLaterality	Should Laterality be enabled? Pass in true to enable displaying laterality information and prompting user for laterality for laterality enabled SNOMED CT terms. Data Type: System.Boolean
DSNOMEDCTLlookup	ExternalLateralityValues	Returns Laterality values as text descriptions. Left returns as "Laterality Left" Right returns as "Laterality Right" Bilateral returns as "Laterality Bilateral" Unspecified (Nothing selected) returns "Laterality " Data Type: System.String
DSNOMEDCTLlookup	FormSize	Overrides default form size (Width: 800, Height: 600) Data Type: System.Drawing.Size
DSNOMEDCTLlookup	FormTitle	Overrides default form title (SNOMED CT Lookup) Data Type: System.String
DSNOMEDCTLlookup	ICD	ICD Value associated with returned SNOMED CT Data Type: System.String
DSNOMEDCTLlookup	InternalLateralityValues	Returns Laterality values as SNOMED CT Concept ID values. Left returns "272741003 7771000" Right returns "272741003 24028007" Bilateral returns "272741003 5144002" Unspecified (Nothing selected) returns "272741003 " Data Type: System.String
DSNOMEDCTLlookup	Namespace	Overrides default DTS namespace (36 – SNOMED CT) used to perform search. Data Type: System.String
DSNOMEDCTLlookup	NumberOfRecords	Maximum number of records returned from SNOMED CT Search Data Type: System.String
DSNOMEDCTLlookup	RequireEpisodicity	Returns 1 if Episodicity should be required. Pass thru to let calling application if Episodicity should be required. Data Type: System.Int32
DSNOMEDCTLlookup	SearchValue	Value passed initially search on. If blank, no search will be performed until user intervention. Data Type: System.String
DSNOMEDCTLlookup	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. Data Type: System.Collections.ArrayList

Class Name	Property	Description
DSNOMEDCTLlookup	ShowParentChild	Show Parent/Child on Fully specified search results. DataType: System.Boolean
DSNOMEDCTLlookup	SNOMEDCTRemoteSession	BMX RemoteSession used to perform data calls to SNOMED CT Search (Terminology Search) RPMS area DataType: IndianHealthService.BMXNet.RemoteSession
DSNOMEDCTLlookup	SynonymSearch	Overrides default search setting of "Fully specified name" to "Synonym" DataType: System.Boolean
Laterality	LateralityValue	Passes back the user selected laterality value. Left, Right, Bilateral or Unspecified. DataType: System.String
ICD9ToSNOMEDCTLlookup	FormSize	Overrides default form size (Width: 800, Height: 600) DataType: System.Drawing.Size
ICD9ToSNOMEDCTLlookup	SearchValue	Value passed initially search on. If blank, no search will be performed until user intervention. DataType: System.String
ICD9ToSNOMEDCTLlookup	DescriptionID	SNOMED CT Description ID DataType: System.String
ICD9ToSNOMEDCTLlookup	Description	SNOMED CT Description DataType: System.String
ICD9ToSNOMEDCTLlookup	ConceptID	SNOMED CT Concept ID DataType: System.String
ICD9ToSNOMEDCTLlookup	DefaultSubset	List of subsets to use for the subset listbox. Overrides the default values provided by SNOMED CT Search API. DataType: System.Collections.ArrayList
ICD9ToSNOMEDCTLlookup	SelectedSubset	List of subsets to have selected in subset listbox DataType: System.Collections.ArrayList
ICD9ToSNOMEDCTLlookup	SNOMEDCTRemoteSession	BMX RemoteSession used to perform data calls to SNOMED CT Search (Terminology Search) RPMS area DataType: IndianHealthService.BMXNet.RemoteSession

12.0 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, the Section 508 compliancy checklist is not applicable.

Appendix A Sample API Calls

A.1 \$\$SEARCH^BSTSAPI

The following example shows the first two and last two records returned of a Fully Specified Name lookup listing:

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

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

>ZW VAR
VAR (1,"ABN")=0
VAR (1,"CHD",1,"CON")=230760006
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")=230763008
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")=230759001
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,"CMN")=0
VAR (1,"CON")=2032001
VAR (1,"DTS")=2032
VAR (1,"EPI")=0
VAR (1,"EQM","CON")=""
VAR (1,"EQM","DTS")=""
VAR (1,"EQM","LAT")=""
VAR (1,"EQM","XADT")=""
VAR (1,"EQM","XRDT")=""
VAR (1,"FSN","DSC")=749395013
VAR (1,"FSN","TRM")="Cerebral edema (disorder)"
VAR (1,"FSN","XADT")=3120301.07
VAR (1,"FSN","XRDT")=""
VAR (1,"HEAL")=""
```

```

VAR(1,"ICD",1,"COD")="G93.6"
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ICD",1,"XADT")=3161031
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,"LAT")=0
VAR(1,"PAS")=1
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,"STS")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
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,"SUB",9,"SUB")="PICK Neurology Long"
VAR(1,"SUB",9,"XADT")=""
VAR(1,"SUB",9,"XRDT")=""
VAR(1,"SYN",1,"DSC")=480612016
VAR(1,"SYN",1,"TRM")="Cerebral oedema"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=4509013
VAR(1,"SYN",2,"TRM")="Intracranial swelling"
VAR(1,"SYN",2,"XADT")=3120301.07

```

```
VAR (1, "SYN", 2, "XRDT")=""
VAR (1, "XADT")=3120301
VAR (1, "XRDT")=3500101
VAR (2, "ABN")=0
VAR (2, "CMN")=0
VAR (2, "CON")=386232002
VAR (2, "DTS")=386232
VAR (2, "EPI")=0
VAR (2, "EQM", "CON")=""
VAR (2, "EQM", "DTS")=""
VAR (2, "EQM", "LAT")=""
VAR (2, "EQM", "XADT")=""
VAR (2, "EQM", "XRDT")=""
VAR (2, "FSN", "DSC")=1460411019
VAR (2, "FSN", "TRM")="Cerebral edema control (regime/therapy)"
VAR (2, "FSN", "XADT")=3120301.07
VAR (2, "FSN", "XRDT")=""
VAR (2, "HEAL")=""
VAR (2, "ICD", 1, "COD")="ZZZ.999"
VAR (2, "ICD", 1, "TYP")="10D"
VAR (2, "ISA", 1, "CON")=""
VAR (2, "ISA", 1, "DTS")=385932
VAR (2, "ISA", 1, "TRM")="Edema control (regime/therapy)"
VAR (2, "ISA", 1, "XADT")=""
VAR (2, "ISA", 1, "XRDT")=""
VAR (2, "ISA", 2, "CON")=""
VAR (2, "ISA", 2, "DTS")=408767
VAR (2, "ISA", 2, "TRM")="Procedure with a clinical finding focus (procedure)"
VAR (2, "ISA", 2, "XADT")=""
VAR (2, "ISA", 2, "XRDT")=""
VAR (2, "LAT")=0
VAR (2, "PAS")=0
VAR (2, "PRB", "DSC")=1477066010
VAR (2, "PRB", "TRM")="Cerebral edema control"
VAR (2, "PRE", "DSC")=1477066010
VAR (2, "PRE", "TRM")="Cerebral edema control"
VAR (2, "PRE", "XADT")=3120301.07
VAR (2, "PRE", "XRDT")=""
VAR (2, "STS")=""
VAR (2, "SYN", 1, "DSC")=1490382012
VAR (2, "SYN", 1, "TRM")="Cerebral edema management"
VAR (2, "SYN", 1, "XADT")=3120301.07
VAR (2, "SYN", 1, "XRDT")=""
VAR (2, "SYN", 2, "DSC")=1490153016
VAR (2, "SYN", 2, "TRM")="Cerebral oedema management"
VAR (2, "SYN", 2, "XADT")=3120301.07
VAR (2, "SYN", 2, "XRDT")=""
VAR (2, "SYN", 3, "DSC")=1476105016
VAR (2, "SYN", 3, "TRM")="Cerebral oedema control"
VAR (2, "SYN", 3, "XADT")=3120301.07
VAR (2, "SYN", 3, "XRDT")=""
VAR (2, "XADT")=3120301
VAR (2, "XRDT")=3500101

...

VAR (10, "ABN")=0
```

```

VAR (10, "CMN")=0
VAR (10, "CON")=262694001
VAR (10, "DTS")=262694
VAR (10, "EPI")=1
VAR (10, "EQM", "CON")=""
VAR (10, "EQM", "DTS")=""
VAR (10, "EQM", "LAT")=""
VAR (10, "EQM", "XADT")=""
VAR (10, "EQM", "XRDT")=""
VAR (10, "FSN", "DSC")=654719010
VAR (10, "FSN", "TRM")="Traumatic generalized cerebral edema (disorder)"
VAR (10, "FSN", "XADT")=3120301.07
VAR (10, "FSN", "XRDT")=""
VAR (10, "HEAL")=""
VAR (10, "ICD", 1, "COD")="ZZZ.999"
VAR (10, "ICD", 1, "TYP")="10D"
VAR (10, "ISA", 1, "CON")=230763008
VAR (10, "ISA", 1, "DTS")=230763
VAR (10, "ISA", 1, "TRM")="Traumatic cerebral edema (disorder)"
VAR (10, "ISA", 1, "XADT")=""
VAR (10, "ISA", 1, "XRDT")=""
VAR (10, "LAT")=0
VAR (10, "PAS")=1
VAR (10, "PRB", "DSC")=390685014
VAR (10, "PRB", "TRM")="Traumatic generalized cerebral edema"
VAR (10, "PRE", "DSC")=390685014
VAR (10, "PRE", "TRM")="Traumatic generalized cerebral edema"
VAR (10, "PRE", "XADT")=3120301.07
VAR (10, "PRE", "XRDT")=""
VAR (10, "STS")=""
VAR (10, "SUB", 1, "SUB")="IHS PROBLEM ALL SNOMED"
VAR (10, "SUB", 1, "XADT")=""
VAR (10, "SUB", 1, "XRDT")=""
VAR (10, "SYN", 1, "DSC")=390684013
VAR (10, "SYN", 1, "TRM")="Traumatic generalised cerebral oedema"
VAR (10, "SYN", 1, "XADT")=3120301.07
VAR (10, "SYN", 1, "XRDT")=""
VAR (10, "XADT")=3120301
VAR (10, "XRDT")=3500101
VAR (11, "ABN")=0
VAR (11, "CMN")=0
VAR (11, "CON")=230759001
VAR (11, "DTS")=230759
VAR (11, "EPI")=0
VAR (11, "EQM", "CON")=""
VAR (11, "EQM", "DTS")=""
VAR (11, "EQM", "LAT")=""
VAR (11, "EQM", "XADT")=""
VAR (11, "EQM", "XRDT")=""
VAR (11, "FSN", "DSC")=618610011
VAR (11, "FSN", "TRM")="Vasogenic cerebral edema (disorder)"
VAR (11, "FSN", "XADT")=3120301.07
VAR (11, "FSN", "XRDT")=""
VAR (11, "HEAL")=""
VAR (11, "ICD", 1, "COD")="G93.6"
VAR (11, "ICD", 1, "TYP")="10D"
VAR (11, "ICD", 1, "XADT")=3161031

```

```

VAR (11, "ICD", 1, "XRDT")=""
VAR (11, "ISA", 1, "CON")=2032001
VAR (11, "ISA", 1, "DTS")=2032
VAR (11, "ISA", 1, "TRM")="Cerebral edema (disorder)"
VAR (11, "ISA", 1, "XADT")=""
VAR (11, "ISA", 1, "XRDT")=""
VAR (11, "LAT")=0
VAR (11, "PAS")=1
VAR (11, "PRB", "DSC")=345748014
VAR (11, "PRB", "TRM")="Vasogenic cerebral edema"
VAR (11, "PRE", "DSC")=345748014
VAR (11, "PRE", "TRM")="Vasogenic cerebral edema"
VAR (11, "PRE", "XADT")=3120301.07
VAR (11, "PRE", "XRDT")=""
VAR (11, "STS")=""
VAR (11, "SUB", 1, "SUB")="IHS PROBLEM ALL SNOMED"
VAR (11, "SUB", 1, "XADT")=""
VAR (11, "SUB", 1, "XRDT")=""
VAR (11, "SYN", 1, "DSC")=345749018
VAR (11, "SYN", 1, "TRM")="Vasogenic cerebral oedema"
VAR (11, "SYN", 1, "XADT")=3120301.07
VAR (11, "SYN", 1, "XRDT")=""
VAR (11, "XADT")=3120301
VAR (11, "XRDT")=3500101

>

```

Figure A-1: Specified name lookup

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

```

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

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

>ZW VAR
VAR (1, "ABN")=0
VAR (1, "CHD", 1, "CON")=230760006
VAR (1, "CHD", 1, "DTS")=230760
VAR (1, "CHD", 1, "TRM")="Cytotoxic cerebral edema (disorder)"
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", 3, "CON")=230761005
VAR (1, "CHD", 3, "DTS")=230761
VAR (1, "CHD", 3, "TRM")="Periventricular cerebrospinal fluid edema (disorder)"
VAR (1, "CHD", 4, "CON")=230763008
VAR (1, "CHD", 4, "DTS")=230763
VAR (1, "CHD", 4, "TRM")="Traumatic cerebral edema (disorder)"
VAR (1, "CHD", 5, "CON")=230759001
VAR (1, "CHD", 5, "DTS")=230759
VAR (1, "CHD", 5, "TRM")="Vasogenic cerebral edema (disorder)"
VAR (1, "CMN")=0
VAR (1, "CON")=2032001
VAR (1, "DTS")=2032

```

```

VAR (1, "EPI")=0
VAR (1, "EQM", "CON")=""
VAR (1, "EQM", "DTS")=""
VAR (1, "EQM", "LAT")=""
VAR (1, "EQM", "XADT")=""
VAR (1, "EQM", "XRDT")=""
VAR (1, "FSN", "DSC")=749395013
VAR (1, "FSN", "TRM")="Cerebral edema (disorder)"
VAR (1, "HEAL")=""
VAR (1, "ICD", 1, "COD")="G93.6"
VAR (1, "ICD", 1, "TYP")="10D"
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, "LAT")=0
VAR (1, "PAS")=1
VAR (1, "PRB", "DSC")=4508017
VAR (1, "PRB", "TRM")="Cerebral edema"
VAR (1, "PRE", "DSC")=4508017
VAR (1, "PRE", "TRM")="Cerebral edema"
VAR (1, "STS")=""
VAR (1, "SUB", 1, "SUB")="IHS PROBLEM ALL SNOMED"
VAR (1, "SUB", 2, "SUB")="IHS Problem List"
VAR (1, "SUB", 3, "SUB")="SRCH Emergency Department"
VAR (1, "SUB", 4, "SUB")="SRCH Family Practice"
VAR (1, "SUB", 5, "SUB")="SRCH Medicine - Inpatient"
VAR (1, "SUB", 6, "SUB")="SRCH Medicine - Urgent Care"
VAR (1, "SUB", 7, "SUB")="SRCH Neurology"
VAR (1, "SUB", 8, "SUB")="SRCH Problem List - Medical"
VAR (1, "SUB", 9, "SUB")="PICK Neurology Long"
VAR (1, "SYN", 1, "DSC")=480612016
VAR (1, "SYN", 1, "TRM")="Cerebral oedema"
VAR (1, "SYN", 2, "DSC")=4509013
VAR (1, "SYN", 2, "TRM")="Intracranial swelling"
VAR (2, "ABN")=0
VAR (2, "CMN")=0
VAR (2, "CON")=386232002
VAR (2, "DTS")=386232
VAR (2, "EPI")=0
VAR (2, "EQM", "CON")=""
VAR (2, "EQM", "DTS")=""
VAR (2, "EQM", "LAT")=""
VAR (2, "EQM", "XADT")=""
VAR (2, "EQM", "XRDT")=""
VAR (2, "FSN", "DSC")=1460411019
VAR (2, "FSN", "TRM")="Cerebral edema control (regime/therapy)"
VAR (2, "HEAL")=""
VAR (2, "ICD", 1, "COD")="ZZZ.999"
VAR (2, "ICD", 1, "TYP")="10D"
VAR (2, "ISA", 1, "CON")=""
VAR (2, "ISA", 1, "DTS")=385932
VAR (2, "ISA", 1, "TRM")="Edema control (regime/therapy)"
VAR (2, "ISA", 2, "CON")=""
VAR (2, "ISA", 2, "DTS")=408767

```

```

VAR(2,"ISA",2,"TRM")="Procedure with a clinical finding focus (procedure)"
VAR(2,"LAT")=0
VAR(2,"PAS")=0
VAR(2,"PRB","DSC")=1477066010
VAR(2,"PRB","TRM")="Cerebral edema control"
VAR(2,"PRE","DSC")=1477066010
VAR(2,"PRE","TRM")="Cerebral edema control"
VAR(2,"STS")=""
VAR(2,"SYN",1,"DSC")=1490382012
VAR(2,"SYN",1,"TRM")="Cerebral edema management"
VAR(2,"SYN",2,"DSC")=1490153016
VAR(2,"SYN",2,"TRM")="Cerebral oedema management"
VAR(2,"SYN",3,"DSC")=1476105016
VAR(2,"SYN",3,"TRM")="Cerebral oedema control"

...

VAR(10,"ABN")=0
VAR(10,"CMN")=0
VAR(10,"CON")=262694001
VAR(10,"DTS")=262694
VAR(10,"EPI")=1
VAR(10,"EQM","CON")=""
VAR(10,"EQM","DTS")=""
VAR(10,"EQM","LAT")=""
VAR(10,"EQM","XADT")=""
VAR(10,"EQM","XRDT")=""
VAR(10,"FSN","DSC")=654719010
VAR(10,"FSN","TRM")="Traumatic generalized cerebral edema (disorder)"
VAR(10,"HEAL")=""
VAR(10,"ICD",1,"COD")="ZZZ.999"
VAR(10,"ICD",1,"TYP")="10D"
VAR(10,"ISA",1,"CON")=230763008
VAR(10,"ISA",1,"DTS")=230763
VAR(10,"ISA",1,"TRM")="Traumatic cerebral edema (disorder)"
VAR(10,"LAT")=0
VAR(10,"PAS")=1
VAR(10,"PRB","DSC")=390685014
VAR(10,"PRB","TRM")="Traumatic generalized cerebral edema"
VAR(10,"PRE","DSC")=390685014
VAR(10,"PRE","TRM")="Traumatic generalized cerebral edema"
VAR(10,"STS")=""
VAR(10,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(10,"SYN",1,"DSC")=390684013
VAR(10,"SYN",1,"TRM")="Traumatic generalised cerebral oedema"
VAR(11,"ABN")=0
VAR(11,"CMN")=0
VAR(11,"CON")=230759001
VAR(11,"DTS")=230759
VAR(11,"EPI")=0
VAR(11,"EQM","CON")=""
VAR(11,"EQM","DTS")=""
VAR(11,"EQM","LAT")=""
VAR(11,"EQM","XADT")=""
VAR(11,"EQM","XRDT")=""
VAR(11,"FSN","DSC")=618610011
VAR(11,"FSN","TRM")="Vasogenic cerebral edema (disorder)"

```

```

VAR (11, "HEAL")=""
VAR (11, "ICD", 1, "COD")="G93.6"
VAR (11, "ICD", 1, "TYP")="10D"
VAR (11, "ISA", 1, "CON")=2032001
VAR (11, "ISA", 1, "DTS")=2032
VAR (11, "ISA", 1, "TRM")="Cerebral edema (disorder) "
VAR (11, "LAT")=0
VAR (11, "PAS")=1
VAR (11, "PRB", "DSC")=345748014
VAR (11, "PRB", "TRM")="Vasogenic cerebral edema"
VAR (11, "PRE", "DSC")=345748014
VAR (11, "PRE", "TRM")="Vasogenic cerebral edema"
VAR (11, "STS")=""
VAR (11, "SUB", 1, "SUB")="IHS PROBLEM ALL SNOMED"
VAR (11, "SYN", 1, "DSC")=345749018
VAR (11, "SYN", 1, "TRM")="Vasogenic cerebral oedema"

```

Figure A-2: Fully Specified Name lookup – add/retire date omitted, only synonyms

The following example shows the first two and last two 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 VAR
VAR (1, "ABN")=0
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")=402208007
VAR (1, "CHD", 3, "DTS")=402208
VAR (1, "CHD", 3, "TRM")="Chronic seborrheic otitis externa (disorder) "
VAR (1, "CHD", 4, "CON")=232241006
VAR (1, "CHD", 4, "DTS")=232241
VAR (1, "CHD", 4, "TRM")="Chronic traumatic otitis externa (disorder) "
VAR (1, "CHD", 5, "CON")=194207002
VAR (1, "CHD", 5, "DTS")=194207
VAR (1, "CHD", 5, "TRM")="Chronic otitis externa due to aspergillosis
(disorder) "
VAR (1, "CMN")=0
VAR (1, "CON")=53295002
VAR (1, "DTS")=53295
VAR (1, "EPI")=0
VAR (1, "EQM", "CON")=""
VAR (1, "EQM", "DTS")=""
VAR (1, "EQM", "LAT")=""
VAR (1, "EQM", "XADT")=""
VAR (1, "EQM", "XRDT")=""
VAR (1, "FSN", "DSC")=791398013
VAR (1, "FSN", "TRM")="Chronic otitis externa (disorder) "

```

```

VAR(1,"HEAL")=""
VAR(1,"ICD",1,"COD")="H60.60"
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ISA",1,"CON")=34936007
VAR(1,"ISA",1,"DTS")=34936
VAR(1,"ISA",1,"TRM")="Chronic dermatitis (disorder)"
VAR(1,"ISA",2,"CON")=128297008
VAR(1,"ISA",2,"DTS")=128297
VAR(1,"ISA",2,"TRM")="Chronic disease of ear (disorder)"
VAR(1,"ISA",3,"CON")=3135009
VAR(1,"ISA",3,"DTS")=3135
VAR(1,"ISA",3,"TRM")="Otitis externa (disorder)"
VAR(1,"LAT")=1
VAR(1,"PAS")=1
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,"STS")="Chronic"
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(1,"SUB",2,"SUB")="IHS Problem List"
VAR(1,"SUB",3,"SUB")="SRCH Audiology"
VAR(1,"SUB",4,"SUB")="SRCH Dermatology"
VAR(1,"SUB",5,"SUB")="SRCH ENT"
VAR(1,"SUB",6,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR(1,"SUB",7,"SUB")="EHR IPL PROMPT FOR LATERALITY"
VAR(1,"SUB",8,"SUB")="PICK ENT"
VAR(1,"SUB",9,"SUB")="PICK ENT - Ear"
VAR(1,"SYN",1,"DSC")=88625010
VAR(1,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(2,"ABN")=0
VAR(2,"CMN")=0
VAR(2,"CON")=232226006
VAR(2,"DTS")=232226
VAR(2,"EPI")=0
VAR(2,"EQM","CON")=""
VAR(2,"EQM","DTS")=""
VAR(2,"EQM","LAT")=""
VAR(2,"EQM","XADT")=""
VAR(2,"EQM","XRDT")=""
VAR(2,"FSN","DSC")=620264015
VAR(2,"FSN","TRM")="Chronic viral otitis externa (disorder)"
VAR(2,"HEAL")=""
VAR(2,"ICD",1,"COD")="H60.399"
VAR(2,"ICD",1,"TYP")="10D"
VAR(2,"ICD",2,"COD")="B34.9"
VAR(2,"ICD",2,"TYP")="10D"
VAR(2,"ISA",1,"CON")=232224009
VAR(2,"ISA",1,"DTS")=232224
VAR(2,"ISA",1,"TRM")="Chronic infective otitis externa (disorder)"
VAR(2,"ISA",2,"CON")=312137007
VAR(2,"ISA",2,"DTS")=312137
VAR(2,"ISA",2,"TRM")="Viral ear infection (disorder)"
VAR(2,"ISA",3,"CON")=128937004
VAR(2,"ISA",3,"DTS")=128937
VAR(2,"ISA",3,"TRM")="Viral infection of skin (disorder)"
VAR(2,"LAT")=1

```

```

VAR(2,"PAS")=1
VAR(2,"PRB","DSC")=347944017
VAR(2,"PRB","TRM")="Chronic viral otitis externa"
VAR(2,"PRE","DSC")=347944017
VAR(2,"PRE","TRM")="Chronic viral otitis externa"
VAR(2,"STS")="Chronic"
VAR(2,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(2,"SUB",2,"SUB")="IHS Problem List"
VAR(2,"SUB",3,"SUB")="SRCH Audiology"
VAR(2,"SUB",4,"SUB")="SRCH Dermatology"
VAR(2,"SUB",5,"SUB")="SRCH ENT"
VAR(2,"SUB",6,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR(2,"SUB",7,"SUB")="EHR IPL PROMPT FOR LATERALITY"

...

VAR(20,"ABN")=0
VAR(20,"CHD",1,"CON")=111898002
VAR(20,"CHD",1,"DTS")=111898
VAR(20,"CHD",1,"TRM")="Chronic mycotic otitis externa (disorder)"
VAR(20,"CHD",2,"CON")=232236003
VAR(20,"CHD",2,"DTS")=232236
VAR(20,"CHD",2,"TRM")="Chronic non-infective otitis externa (disorder)"
VAR(20,"CHD",3,"CON")=402208007
VAR(20,"CHD",3,"DTS")=402208
VAR(20,"CHD",3,"TRM")="Chronic seborrheic otitis externa (disorder)"
VAR(20,"CHD",4,"CON")=232241006
VAR(20,"CHD",4,"DTS")=232241
VAR(20,"CHD",4,"TRM")="Chronic traumatic otitis externa (disorder)"
VAR(20,"CHD",5,"CON")=194207002
VAR(20,"CHD",5,"DTS")=194207
VAR(20,"CHD",5,"TRM")="Chronic otitis externa due to aspergillosis
(disorder)"
VAR(20,"CMN")=0
VAR(20,"CON")=53295002
VAR(20,"DTS")=53295
VAR(20,"EPI")=0
VAR(20,"EQM","CON")=""
VAR(20,"EQM","DTS")=""
VAR(20,"EQM","LAT")=""
VAR(20,"EQM","XADT")=""
VAR(20,"EQM","XRDT")=""
VAR(20,"FSN","DSC")=791398013
VAR(20,"FSN","TRM")="Chronic otitis externa (disorder)"
VAR(20,"HEAL")=""
VAR(20,"ICD",1,"COD")="H60.60"
VAR(20,"ICD",1,"TYP")="10D"
VAR(20,"ISA",1,"CON")=34936007
VAR(20,"ISA",1,"DTS")=34936
VAR(20,"ISA",1,"TRM")="Chronic dermatitis (disorder)"
VAR(20,"ISA",2,"CON")=128297008
VAR(20,"ISA",2,"DTS")=128297
VAR(20,"ISA",2,"TRM")="Chronic disease of ear (disorder)"
VAR(20,"ISA",3,"CON")=3135009
VAR(20,"ISA",3,"DTS")=3135
VAR(20,"ISA",3,"TRM")="Otitis externa (disorder)"
VAR(20,"LAT")=1

```

```

VAR(20,"PAS")=1
VAR(20,"PRB","DSC")="T1999006249"
VAR(20,"PRB","TRM")="Otitis externa (ear canal infection), chronic"
VAR(20,"PRE","DSC")=88624014
VAR(20,"PRE","TRM")="Chronic otitis externa"
VAR(20,"STS")="Chronic"
VAR(20,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(20,"SUB",2,"SUB")="IHS Problem List"
VAR(20,"SUB",3,"SUB")="SRCH Audiology"
VAR(20,"SUB",4,"SUB")="SRCH Dermatology"
VAR(20,"SUB",5,"SUB")="SRCH ENT"
VAR(20,"SUB",6,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR(20,"SUB",7,"SUB")="EHR IPL PROMPT FOR LATERALITY"
VAR(20,"SUB",8,"SUB")="PICK ENT"
VAR(20,"SUB",9,"SUB")="PICK ENT - Ear"
VAR(20,"SYN",1,"DSC")=88625010
VAR(20,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(21,"ABN")=0
VAR(21,"CHD",1,"CON")=194207002
VAR(21,"CHD",1,"DTS")=194207
VAR(21,"CHD",1,"TRM")="Chronic otitis externa due to aspergillosis (disorder)"
VAR(21,"CMN")=0
VAR(21,"CON")=111898002
VAR(21,"DTS")=111898
VAR(21,"EPI")=0
VAR(21,"EQM","CON")=""
VAR(21,"EQM","DTS")=""
VAR(21,"EQM","LAT")=""
VAR(21,"EQM","XADT")=""
VAR(21,"EQM","XRDT")=""
VAR(21,"FSN","DSC")=634690013
VAR(21,"FSN","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(21,"HEAL")=""
VAR(21,"ICD",1,"COD")="H60.399"
VAR(21,"ICD",1,"TYP")="10D"
VAR(21,"ICD",2,"COD")="B36.9"
VAR(21,"ICD",2,"TYP")="10D"
VAR(21,"ISA",1,"CON")=177010002
VAR(21,"ISA",1,"DTS")=177010
VAR(21,"ISA",1,"TRM")="Chronic infectious disease (disorder)"
VAR(21,"ISA",2,"CON")=232224009
VAR(21,"ISA",2,"DTS")=232224
VAR(21,"ISA",2,"TRM")="Chronic infective otitis externa (disorder)"
VAR(21,"ISA",3,"CON")=53295002
VAR(21,"ISA",3,"DTS")=53295
VAR(21,"ISA",3,"TRM")="Chronic otitis externa (disorder)"
VAR(21,"ISA",4,"CON")=53316003
VAR(21,"ISA",4,"DTS")=53316
VAR(21,"ISA",4,"TRM")="Otomycosis (disorder)"
VAR(21,"LAT")=1
VAR(21,"PAS")=1
VAR(21,"PRB","DSC")="T1999006250"
VAR(21,"PRB","TRM")="Otitis externa (ear canal infection), chronic mycotic"
VAR(21,"PRE","DSC")=179051014
VAR(21,"PRE","TRM")="Chronic mycotic otitis externa"
VAR(21,"STS")="Chronic"

```

```

VAR(21,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(21,"SUB",2,"SUB")="IHS Problem List"
VAR(21,"SUB",3,"SUB")="SRCH Audiology"
VAR(21,"SUB",4,"SUB")="SRCH Dermatology"
VAR(21,"SUB",5,"SUB")="SRCH ENT"
VAR(21,"SUB",6,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR(21,"SUB",7,"SUB")="EHR IPL PROMPT FOR LATERALITY"
VAR(21,"SUB",8,"SUB")="PICK ENT - Ear"
VAR(21,"SYN",1,"DSC")="T1999006250"
VAR(21,"SYN",1,"TRM")="Otitis externa (ear canal infection), chronic
mycotic"
VAR(21,"SYN",2,"DSC")=1219702011
VAR(21,"SYN",2,"TRM")="Chronic fungal otitis externa"

>

```

Figure A-3: Synonym lookup list – add/retire date omitted

The following example shows the first two and last two 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^
>ZW VAR
VAR(1,"ABN")=0
VAR(1,"CMN")=0
VAR(1,"CON")=53295002
VAR(1,"DTS")=53295
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=791398013
VAR(1,"FSN","TRM")="Chronic otitis externa (disorder)"
VAR(1,"HEAL")=""
VAR(1,"ICD",1,"COD")="H60.60"
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"LAT")=0
VAR(1,"PAS")=0
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,"STS")=""
VAR(1,"SYN",1,"DSC")=88625010
VAR(1,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(2,"ABN")=0
VAR(2,"CMN")=0
VAR(2,"CON")=232226006
VAR(2,"DTS")=232226
VAR(2,"EPI")=0

```

```

VAR (2, "EQM", "CON")=""
VAR (2, "EQM", "DTS")=""
VAR (2, "EQM", "LAT")=""
VAR (2, "EQM", "XADT")=""
VAR (2, "EQM", "XRDT")=""
VAR (2, "FSN", "DSC")=620264015
VAR (2, "FSN", "TRM")="Chronic viral otitis externa (disorder)"
VAR (2, "HEAL")=""
VAR (2, "ICD", 1, "COD")="H60.399"
VAR (2, "ICD", 1, "TYP")="10D"
VAR (2, "ICD", 2, "COD")="B34.9"
VAR (2, "ICD", 2, "TYP")="10D"
VAR (2, "LAT")=0
VAR (2, "PAS")=0
VAR (2, "PRB", "DSC")=347944017
VAR (2, "PRB", "TRM")="Chronic viral otitis externa"
VAR (2, "PRE", "DSC")=347944017
VAR (2, "PRE", "TRM")="Chronic viral otitis externa"
VAR (2, "STS")=""

...

VAR (20, "ABN")=0
VAR (20, "CMN")=0
VAR (20, "CON")=53295002
VAR (20, "DTS")=53295
VAR (20, "EPI")=0
VAR (20, "EQM", "CON")=""
VAR (20, "EQM", "DTS")=""
VAR (20, "EQM", "LAT")=""
VAR (20, "EQM", "XADT")=""
VAR (20, "EQM", "XRDT")=""
VAR (20, "FSN", "DSC")=791398013
VAR (20, "FSN", "TRM")="Chronic otitis externa (disorder)"
VAR (20, "HEAL")=""
VAR (20, "ICD", 1, "COD")="H60.60"
VAR (20, "ICD", 1, "TYP")="10D"
VAR (20, "LAT")=0
VAR (20, "PAS")=0
VAR (20, "PRB", "DSC")="T1999006249"
VAR (20, "PRB", "TRM")="Otitis externa (ear canal infection), chronic"
VAR (20, "PRE", "DSC")=88624014
VAR (20, "PRE", "TRM")="Chronic otitis externa"
VAR (20, "STS")=""
VAR (20, "SYN", 1, "DSC")=88625010
VAR (20, "SYN", 1, "TRM")="Chronic otitis externa, NOS"
VAR (21, "ABN")=0
VAR (21, "CMN")=0
VAR (21, "CON")=111898002
VAR (21, "DTS")=111898
VAR (21, "EPI")=0
VAR (21, "EQM", "CON")=""
VAR (21, "EQM", "DTS")=""
VAR (21, "EQM", "LAT")=""
VAR (21, "EQM", "XADT")=""
VAR (21, "EQM", "XRDT")=""
VAR (21, "FSN", "DSC")=634690013

```

```

VAR(21,"FSN","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(21,"HEAL")=""
VAR(21,"ICD",1,"COD")="H60.399"
VAR(21,"ICD",1,"TYP")="10D"
VAR(21,"ICD",2,"COD")="B36.9"
VAR(21,"ICD",2,"TYP")="10D"
VAR(21,"LAT")=0
VAR(21,"PAS")=0
VAR(21,"PRB","DSC")="T1999006250"
VAR(21,"PRB","TRM")="Otitis externa (ear canal infection), chronic mycotic"
VAR(21,"PRE","DSC")=179051014
VAR(21,"PRE","TRM")="Chronic mycotic otitis externa"
VAR(21,"STS")=""
VAR(21,"SYN",1,"DSC")="T1999006250"
VAR(21,"SYN",1,"TRM")="Otitis externa (ear canal infection), chronic
mycotic"
VAR(21,"SYN",2,"DSC")=1219702011
VAR(21,"SYN",2,"TRM")="Chronic fungal otitis externa"

```

Figure A-4: Synonym lookup list – add/retire date omitted – synonym preferred, ICD returned

The following example shows the first two and last two 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
>ZW VAR
VAR(1,"ABN")=0
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")=402208007
VAR(1,"CHD",3,"DTS")=402208
VAR(1,"CHD",3,"TRM")="Chronic seborrhic otitis externa (disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=232241006
VAR(1,"CHD",4,"DTS")=232241
VAR(1,"CHD",4,"TRM")="Chronic traumatic otitis externa (disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=194207002
VAR(1,"CHD",5,"DTS")=194207
VAR(1,"CHD",5,"TRM")="Chronic otitis externa due to aspergillosis
(disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CMN")=0

```

```

VAR(1,"CON")=53295002
VAR(1,"DTS")=53295
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
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,"HEAL")=""
VAR(1,"ICD",1,"COD")="H60.60"
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ICD",1,"XADT")=3161031
VAR(1,"ICD",1,"XRDT")=""
VAR(1,"ISA",1,"CON")=34936007
VAR(1,"ISA",1,"DTS")=34936
VAR(1,"ISA",1,"TRM")="Chronic dermatitis (disorder)"
VAR(1,"ISA",1,"XADT")=""
VAR(1,"ISA",1,"XRDT")=""
VAR(1,"ISA",2,"CON")=128297008
VAR(1,"ISA",2,"DTS")=128297
VAR(1,"ISA",2,"TRM")="Chronic disease of ear (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,"LAT")=1
VAR(1,"PAS")=1
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,"PRE","XADT")=3120301.07
VAR(1,"PRE","XRDT")=""
VAR(1,"STS")="Chronic"
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
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 Audiology"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="SRCH Dermatology"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SUB",5,"SUB")="SRCH ENT"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"

```

```

VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
VAR(1,"SUB",7,"SUB")="EHR IPL PROMPT FOR LATERALITY"
VAR(1,"SUB",7,"XADT")=""
VAR(1,"SUB",7,"XRDT")=""
VAR(1,"SUB",8,"SUB")="PICK ENT"
VAR(1,"SUB",8,"XADT")=""
VAR(1,"SUB",8,"XRDT")=""
VAR(1,"SUB",9,"SUB")="PICK ENT - Ear"
VAR(1,"SUB",9,"XADT")=""
VAR(1,"SUB",9,"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,"ABN")=0
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",1,"XADT")=""
VAR(2,"CHD",1,"XRDT")=""
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",2,"XADT")=""
VAR(2,"CHD",2,"XRDT")=""
VAR(2,"CHD",3,"CON")=402208007
VAR(2,"CHD",3,"DTS")=402208
VAR(2,"CHD",3,"TRM")="Chronic seborrheic otitis externa (disorder)"
VAR(2,"CHD",3,"XADT")=""
VAR(2,"CHD",3,"XRDT")=""
VAR(2,"CHD",4,"CON")=232241006
VAR(2,"CHD",4,"DTS")=232241
VAR(2,"CHD",4,"TRM")="Chronic traumatic otitis externa (disorder)"
VAR(2,"CHD",4,"XADT")=""
VAR(2,"CHD",4,"XRDT")=""
VAR(2,"CHD",5,"CON")=194207002
VAR(2,"CHD",5,"DTS")=194207
VAR(2,"CHD",5,"TRM")="Chronic otitis externa due to aspergillosis
(disorder)"
VAR(2,"CHD",5,"XADT")=""
VAR(2,"CHD",5,"XRDT")=""
VAR(2,"CMN")=0
VAR(2,"CON")=53295002
VAR(2,"DTS")=53295
VAR(2,"EPI")=0
VAR(2,"EQM","CON")=""
VAR(2,"EQM","DTS")=""
VAR(2,"EQM","LAT")=""
VAR(2,"EQM","XADT")=""
VAR(2,"EQM","XRDT")=""
VAR(2,"FSN","DSC")=791398013
VAR(2,"FSN","TRM")="Chronic otitis externa (disorder)"
VAR(2,"FSN","XADT")=3120301.07
VAR(2,"FSN","XRDT")=""

```

```

VAR(2,"HEAL")=""
VAR(2,"ICD",1,"COD")="H60.60"
VAR(2,"ICD",1,"TYP")="10D"
VAR(2,"ICD",1,"XADT")=3161031
VAR(2,"ICD",1,"XRDT")=""
VAR(2,"ISA",1,"CON")=34936007
VAR(2,"ISA",1,"DTS")=34936
VAR(2,"ISA",1,"TRM")="Chronic dermatitis (disorder)"
VAR(2,"ISA",1,"XADT")=""
VAR(2,"ISA",1,"XRDT")=""
VAR(2,"ISA",2,"CON")=128297008
VAR(2,"ISA",2,"DTS")=128297
VAR(2,"ISA",2,"TRM")="Chronic disease of ear (disorder)"
VAR(2,"ISA",2,"XADT")=""
VAR(2,"ISA",2,"XRDT")=""
VAR(2,"ISA",3,"CON")=3135009
VAR(2,"ISA",3,"DTS")=3135
VAR(2,"ISA",3,"TRM")="Otitis externa (disorder)"
VAR(2,"ISA",3,"XADT")=""
VAR(2,"ISA",3,"XRDT")=""
VAR(2,"LAT")=1
VAR(2,"PAS")=1
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,"PRE","XADT")=3120301.07
VAR(2,"PRE","XRDT")=""
VAR(2,"STS")="Chronic"
VAR(2,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(2,"SUB",1,"XADT")=""
VAR(2,"SUB",1,"XRDT")=""
VAR(2,"SUB",2,"SUB")="IHS Problem List"
VAR(2,"SUB",2,"XADT")=""
VAR(2,"SUB",2,"XRDT")=""
VAR(2,"SUB",3,"SUB")="SRCH Audiology"
VAR(2,"SUB",3,"XADT")=""
VAR(2,"SUB",3,"XRDT")=""
VAR(2,"SUB",4,"SUB")="SRCH Dermatology"
VAR(2,"SUB",4,"XADT")=""
VAR(2,"SUB",4,"XRDT")=""
VAR(2,"SUB",5,"SUB")="SRCH ENT"
VAR(2,"SUB",5,"XADT")=""
VAR(2,"SUB",5,"XRDT")=""
VAR(2,"SUB",6,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR(2,"SUB",6,"XADT")=""
VAR(2,"SUB",6,"XRDT")=""
VAR(2,"SUB",7,"SUB")="EHR IPL PROMPT FOR LATERALITY"
VAR(2,"SUB",7,"XADT")=""
VAR(2,"SUB",7,"XRDT")=""
VAR(2,"SUB",8,"SUB")="PICK ENT"
VAR(2,"SUB",8,"XADT")=""
VAR(2,"SUB",8,"XRDT")=""
VAR(2,"SUB",9,"SUB")="PICK ENT - Ear"
VAR(2,"SUB",9,"XADT")=""
VAR(2,"SUB",9,"XRDT")=""
VAR(2,"SYN",1,"DSC")=88625010

```

```

VAR(2,"SYN",1,"TRM")="Chronic otitis externa, NOS"
VAR(2,"SYN",1,"XADT")=3120301.07
VAR(2,"SYN",1,"XRDT")=""
VAR(2,"XADT")=3120301
VAR(2,"XRDT")=3500101

...

VAR(20,"ABN")=0
VAR(20,"CHD",1,"CON")=194207002
VAR(20,"CHD",1,"DTS")=194207
VAR(20,"CHD",1,"TRM")="Chronic otitis externa due to aspergillosis
(disorder)"
VAR(20,"CHD",1,"XADT")=""
VAR(20,"CHD",1,"XRDT")=""
VAR(20,"CMN")=0
VAR(20,"CON")=111898002
VAR(20,"DTS")=111898
VAR(20,"EPI")=0
VAR(20,"EQM","CON")=""
VAR(20,"EQM","DTS")=""
VAR(20,"EQM","LAT")=""
VAR(20,"EQM","XADT")=""
VAR(20,"EQM","XRDT")=""
VAR(20,"FSN","DSC")=634690013
VAR(20,"FSN","TRM")="Chronic mycotic otitis externa (disorder)"
VAR(20,"FSN","XADT")=3120301.07
VAR(20,"FSN","XRDT")=""
VAR(20,"HEAL")=""
VAR(20,"ICD",1,"COD")="H60.399"
VAR(20,"ICD",1,"TYP")="10D"
VAR(20,"ICD",1,"XADT")=3161031
VAR(20,"ICD",1,"XRDT")=""
VAR(20,"ICD",2,"COD")="B36.9"
VAR(20,"ICD",2,"TYP")="10D"
VAR(20,"ICD",2,"XADT")=3161031
VAR(20,"ICD",2,"XRDT")=""
VAR(20,"ISA",1,"CON")=177010002
VAR(20,"ISA",1,"DTS")=177010
VAR(20,"ISA",1,"TRM")="Chronic infectious disease (disorder)"
VAR(20,"ISA",1,"XADT")=""
VAR(20,"ISA",1,"XRDT")=""
VAR(20,"ISA",2,"CON")=232224009
VAR(20,"ISA",2,"DTS")=232224
VAR(20,"ISA",2,"TRM")="Chronic infective otitis externa (disorder)"
VAR(20,"ISA",2,"XADT")=""
VAR(20,"ISA",2,"XRDT")=""
VAR(20,"ISA",3,"CON")=53295002
VAR(20,"ISA",3,"DTS")=53295
VAR(20,"ISA",3,"TRM")="Chronic otitis externa (disorder)"
VAR(20,"ISA",3,"XADT")=""
VAR(20,"ISA",3,"XRDT")=""
VAR(20,"ISA",4,"CON")=53316003
VAR(20,"ISA",4,"DTS")=53316
VAR(20,"ISA",4,"TRM")="Otomycosis (disorder)"
VAR(20,"ISA",4,"XADT")=""
VAR(20,"ISA",4,"XRDT")=""

```

```

VAR (20, "LAT")=1
VAR (20, "PAS")=1
VAR (20, "PRB", "DSC")=179051014
VAR (20, "PRB", "TRM")="Chronic mycotic otitis externa"
VAR (20, "PRE", "DSC")=179051014
VAR (20, "PRE", "TRM")="Chronic mycotic otitis externa"
VAR (20, "PRE", "XADT")=3120301.07
VAR (20, "PRE", "XRDT")=""
VAR (20, "STS")="Chronic"
VAR (20, "SUB", 1, "SUB")="IHS PROBLEM ALL SNOMED"
VAR (20, "SUB", 1, "XADT")=""
VAR (20, "SUB", 1, "XRDT")=""
VAR (20, "SUB", 2, "SUB")="IHS Problem List"
VAR (20, "SUB", 2, "XADT")=""
VAR (20, "SUB", 2, "XRDT")=""
VAR (20, "SUB", 3, "SUB")="SRCH Audiology"
VAR (20, "SUB", 3, "XADT")=""
VAR (20, "SUB", 3, "XRDT")=""
VAR (20, "SUB", 4, "SUB")="SRCH Dermatology"
VAR (20, "SUB", 4, "XADT")=""
VAR (20, "SUB", 4, "XRDT")=""
VAR (20, "SUB", 5, "SUB")="SRCH ENT"
VAR (20, "SUB", 5, "XADT")=""
VAR (20, "SUB", 5, "XRDT")=""
VAR (20, "SUB", 6, "SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR (20, "SUB", 6, "XADT")=""
VAR (20, "SUB", 6, "XRDT")=""
VAR (20, "SUB", 7, "SUB")="EHR IPL PROMPT FOR LATERALITY"
VAR (20, "SUB", 7, "XADT")=""
VAR (20, "SUB", 7, "XRDT")=""
VAR (20, "SUB", 8, "SUB")="PICK ENT - Ear"
VAR (20, "SUB", 8, "XADT")=""
VAR (20, "SUB", 8, "XRDT")=""
VAR (20, "SYN", 1, "DSC")="T1999006250"
VAR (20, "SYN", 1, "TRM")="Otitis externa (ear canal infection), chronic mycotic"
VAR (20, "SYN", 1, "XADT")=3140301.07
VAR (20, "SYN", 1, "XRDT")=""
VAR (20, "SYN", 2, "DSC")=1219702011
VAR (20, "SYN", 2, "TRM")="Chronic fungal otitis externa"
VAR (20, "SYN", 2, "XADT")=3120301.07
VAR (20, "SYN", 2, "XRDT")=""
VAR (20, "XADT")=3120301
VAR (20, "XRDT")=3500101
VAR (21, "ABN")=0
VAR (21, "CHD", 1, "CON")=194207002
VAR (21, "CHD", 1, "DTS")=194207
VAR (21, "CHD", 1, "TRM")="Chronic otitis externa due to aspergillosis (disorder)"
VAR (21, "CHD", 1, "XADT")=""
VAR (21, "CHD", 1, "XRDT")=""
VAR (21, "CMN")=0
VAR (21, "CON")=111898002
VAR (21, "DTS")=111898
VAR (21, "EPI")=0
VAR (21, "EQM", "CON")=""
VAR (21, "EQM", "DTS")=""

```

```

VAR (21, "EQM", "LAT")=""
VAR (21, "EQM", "XADT")=""
VAR (21, "EQM", "XRDT")=""
VAR (21, "FSN", "DSC")=634690013
VAR (21, "FSN", "TRM")="Chronic mycotic otitis externa (disorder)"
VAR (21, "FSN", "XADT")=3120301.07
VAR (21, "FSN", "XRDT")=""
VAR (21, "HEAL")=""
VAR (21, "ICD", 1, "COD")="H60.399"
VAR (21, "ICD", 1, "TYP")="10D"
VAR (21, "ICD", 1, "XADT")=3161031
VAR (21, "ICD", 1, "XRDT")=""
VAR (21, "ICD", 2, "COD")="B36.9"
VAR (21, "ICD", 2, "TYP")="10D"
VAR (21, "ICD", 2, "XADT")=3161031
VAR (21, "ICD", 2, "XRDT")=""
VAR (21, "ISA", 1, "CON")=177010002
VAR (21, "ISA", 1, "DTS")=177010
VAR (21, "ISA", 1, "TRM")="Chronic infectious disease (disorder)"
VAR (21, "ISA", 1, "XADT")=""
VAR (21, "ISA", 1, "XRDT")=""
VAR (21, "ISA", 2, "CON")=232224009
VAR (21, "ISA", 2, "DTS")=232224
VAR (21, "ISA", 2, "TRM")="Chronic infective otitis externa (disorder)"
VAR (21, "ISA", 2, "XADT")=""
VAR (21, "ISA", 2, "XRDT")=""
VAR (21, "ISA", 3, "CON")=53295002
VAR (21, "ISA", 3, "DTS")=53295
VAR (21, "ISA", 3, "TRM")="Chronic otitis externa (disorder)"
VAR (21, "ISA", 3, "XADT")=""
VAR (21, "ISA", 3, "XRDT")=""
VAR (21, "ISA", 4, "CON")=53316003
VAR (21, "ISA", 4, "DTS")=53316
VAR (21, "ISA", 4, "TRM")="Otomycosis (disorder)"
VAR (21, "ISA", 4, "XADT")=""
VAR (21, "ISA", 4, "XRDT")=""
VAR (21, "LAT")=1
VAR (21, "PAS")=1
VAR (21, "PRB", "DSC")=1219702011
VAR (21, "PRB", "TRM")="Chronic fungal otitis externa"
VAR (21, "PRE", "DSC")=179051014
VAR (21, "PRE", "TRM")="Chronic mycotic otitis externa"
VAR (21, "PRE", "XADT")=3120301.07
VAR (21, "PRE", "XRDT")=""
VAR (21, "STS")="Chronic"
VAR (21, "SUB", 1, "SUB")="IHS PROBLEM ALL SNOMED"
VAR (21, "SUB", 1, "XADT")=""
VAR (21, "SUB", 1, "XRDT")=""
VAR (21, "SUB", 2, "SUB")="IHS Problem List"
VAR (21, "SUB", 2, "XADT")=""
VAR (21, "SUB", 2, "XRDT")=""
VAR (21, "SUB", 3, "SUB")="SRCH Audiology"
VAR (21, "SUB", 3, "XADT")=""
VAR (21, "SUB", 3, "XRDT")=""
VAR (21, "SUB", 4, "SUB")="SRCH Dermatology"
VAR (21, "SUB", 4, "XADT")=""
VAR (21, "SUB", 4, "XRDT")=""

```

```

VAR (21,"SUB",5,"SUB")="SRCH ENT"
VAR (21,"SUB",5,"XADT")=""
VAR (21,"SUB",5,"XRDT")=""
VAR (21,"SUB",6,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR (21,"SUB",6,"XADT")=""
VAR (21,"SUB",6,"XRDT")=""
VAR (21,"SUB",7,"SUB")="EHR IPL PROMPT FOR LATERALITY"
VAR (21,"SUB",7,"XADT")=""
VAR (21,"SUB",7,"XRDT")=""
VAR (21,"SUB",8,"SUB")="PICK ENT - Ear"
VAR (21,"SUB",8,"XADT")=""
VAR (21,"SUB",8,"XRDT")=""
VAR (21,"SYN",1,"DSC")="T1999006250"
VAR (21,"SYN",1,"TRM")="Otitis externa (ear canal infection), chronic
mycotic"
VAR (21,"SYN",1,"XADT")=3140301.07
VAR (21,"SYN",1,"XRDT")=""
VAR (21,"SYN",2,"DSC")=1219702011
VAR (21,"SYN",2,"TRM")="Chronic fungal otitis externa"
VAR (21,"SYN",2,"XADT")=3120301.07
VAR (21,"SYN",2,"XRDT")=""
VAR (21,"XADT")=3120301
VAR (21,"XRDT")=3500101

>

```

Figure A-5: Synonym lookup list with local search

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

```

>S OUT="VAR",IN="HEART^F^36^SRCH Family History^^^^1"

>W $$SEARCH^BSTSAPI (OUT,IN)
2^
>ZW @OUT
VAR (1,"ABN")=0
VAR (1,"CMN")=1
VAR (1,"CON")=433305001
VAR (1,"DTS")=433305
VAR (1,"EPI")=0
VAR (1,"EQM","CON")=""
VAR (1,"EQM","DTS")=""
VAR (1,"EQM","LAT")=""
VAR (1,"EQM","XADT")=""
VAR (1,"EQM","XRDT")=""
VAR (1,"FSN","DSC")=2708363012
VAR (1,"FSN","TRM")="Family history of congestive heart failure (situation)"
VAR (1,"HEAL")=""
VAR (1,"ICD",1,"COD")="Z82.49"
VAR (1,"ICD",1,"TYP")="10D"
VAR (1,"ISA",1,"CON")=429959009
VAR (1,"ISA",1,"DTS")=429959
VAR (1,"ISA",1,"TRM")="Family history of heart failure (situation)"
VAR (1,"LAT")=0
VAR (1,"PAS")=1
VAR (1,"PRB","DSC")=2764062012

```

```

VAR(1,"PRB","TRM")="Family history of congestive heart failure"
VAR(1,"PRE","DSC")=2764062012
VAR(1,"PRE","TRM")="Family history of congestive heart failure"
VAR(1,"STS")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(1,"SUB",2,"SUB")="IHS Problem List"
VAR(1,"SUB",3,"SUB")="SRCH Cardiology"
VAR(1,"SUB",4,"SUB")="SRCH Common Terms"
VAR(1,"SUB",5,"SUB")="SRCH Complementary Medicine"
VAR(1,"SUB",6,"SUB")="SRCH Family History"
VAR(2,"ABN")=0
VAR(2,"CHD",1,"CON")=275121006
VAR(2,"CHD",1,"DTS")=275121
VAR(2,"CHD",1,"TRM")="Family history: Angina (situation)"
VAR(2,"CHD",2,"CON")=266896003
VAR(2,"CHD",2,"DTS")=266896
VAR(2,"CHD",2,"TRM")="Family history: Ischemic heart disease at greater than 60 years (situation)"
VAR(2,"CHD",3,"CON")=266895004
VAR(2,"CHD",3,"DTS")=266895
VAR(2,"CHD",3,"TRM")="Family history: Ischemic heart disease at less than 60 years (situation)"
VAR(2,"CHD",4,"CON")=266897007
VAR(2,"CHD",4,"DTS")=266897
VAR(2,"CHD",4,"TRM")="Family history: Myocardial infarction (situation)"
VAR(2,"CMN")=1
VAR(2,"CON")=297242006
VAR(2,"DTS")=297242
VAR(2,"EPI")=0
VAR(2,"EQM","CON")=""
VAR(2,"EQM","DTS")=""
VAR(2,"EQM","LAT")=""
VAR(2,"EQM","XADT")=""
VAR(2,"EQM","XRDT")=""
VAR(2,"FSN","DSC")=2610786013
VAR(2,"FSN","TRM")="Family history of ischemic heart disease (situation)"
VAR(2,"HEAL")=""
VAR(2,"ICD",1,"COD")="Z82.49"
VAR(2,"ICD",1,"TYP")="10D"
VAR(2,"ISA",1,"CON")=275120007
VAR(2,"ISA",1,"DTS")=275120
VAR(2,"ISA",1,"TRM")="Family history: Cardiac disorder (situation)"
VAR(2,"LAT")=0
VAR(2,"PAS")=1
VAR(2,"PRB","DSC")=437727012
VAR(2,"PRB","TRM")="Family history of ischemic heart disease"
VAR(2,"PRE","DSC")=437727012
VAR(2,"PRE","TRM")="Family history of ischemic heart disease"
VAR(2,"STS")=""
VAR(2,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(2,"SUB",2,"SUB")="IHS Problem List"
VAR(2,"SUB",3,"SUB")="SRCH Cardiology"
VAR(2,"SUB",4,"SUB")="SRCH Common Terms"
VAR(2,"SUB",5,"SUB")="SRCH Family History"
VAR(2,"SUB",6,"SUB")="SRCH Family Practice"
VAR(2,"SUB",7,"SUB")="SRCH Pediatrics"
VAR(2,"SYN",1,"DSC")="T1999000469"

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VAR(2,"SYN",1,"TRM")="FHX of ischemic heart disease"
VAR(2,"SYN",2,"DSC")=692552012
VAR(2,"SYN",2,"TRM")="Family history of ischemic heart disease (context-
dependent category)"
VAR(2,"SYN",3,"DSC")=437730017
VAR(2,"SYN",3,"TRM")="FH: Ischemic heart disease"
VAR(2,"SYN",4,"DSC")=437729010
VAR(2,"SYN",4,"TRM")="FH: Ischaemic heart disease"
VAR(2,"SYN",5,"DSC")=437728019
VAR(2,"SYN",5,"TRM")="Family history of ischaemic heart disease"
VAR(3,"ABN")=0
VAR(3,"CMN")=0
VAR(3,"CON")=64041000119100
VAR(3,"DTS")=1124069933
VAR(3,"EPI")=0
VAR(3,"EQM","CON")=""
VAR(3,"EQM","DTS")=""
VAR(3,"EQM","LAT")=""
VAR(3,"EQM","XADT")=""
VAR(3,"EQM","XRDT")=""
VAR(3,"FSN","DSC")=3047735019
VAR(3,"FSN","TRM")="Family history of complex congenital heart disease
(situation)"
VAR(3,"HEAL")=""
VAR(3,"ICD",1,"COD")="ZZZ.999"
VAR(3,"ICD",1,"TYP")="10D"
VAR(3,"ISA",1,"CON")=160364005
VAR(3,"ISA",1,"DTS")=160364
VAR(3,"ISA",1,"TRM")="Family history: Congenital heart disease (situation)"
VAR(3,"LAT")=0
VAR(3,"PAS")=0
VAR(3,"PRB","DSC")=3047806015
VAR(3,"PRB","TRM")="Family history of complex congenital heart disease"
VAR(3,"PRE","DSC")=3047806015
VAR(3,"PRE","TRM")="Family history of complex congenital heart disease"
VAR(3,"STS")=""
VAR(3,"SUB",1,"SUB")="SRCH Family History"
VAR(3,"SYN",1,"DSC")="T1999085567"
VAR(3,"SYN",1,"TRM")="Family history of complex congenital heart defect"
VAR(3,"SYN",2,"DSC")="T1999085626"
VAR(3,"SYN",2,"TRM")="Fhx of complex congenital heart defect"
VAR(4,"ABN")=0
VAR(4,"CMN")=0
VAR(4,"CON")=429958001
VAR(4,"DTS")=429958
VAR(4,"EPI")=0
VAR(4,"EQM","CON")=""
VAR(4,"EQM","DTS")=""
VAR(4,"EQM","LAT")=""
VAR(4,"EQM","XADT")=""
VAR(4,"EQM","XRDT")=""
VAR(4,"FSN","DSC")=2708295011
VAR(4,"FSN","TRM")="Family history of conduction disorder of the heart
(situation)"
VAR(4,"HEAL")=""
VAR(4,"ICD",1,"COD")="Z82.49"
VAR(4,"ICD",1,"TYP")="10D"

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```
VAR(4,"ISA",1,"CON")=698248002
VAR(4,"ISA",1,"DTS")=1124046853
VAR(4,"ISA",1,"TRM")="Family history of cardiac arrhythmia (situation)"
VAR(4,"LAT")=0
VAR(4,"PAS")=1
VAR(4,"PRB","DSC")=2764080015
VAR(4,"PRB","TRM")="Family history of conduction disorder of the heart"
VAR(4,"PRE","DSC")=2764080015
VAR(4,"PRE","TRM")="Family history of conduction disorder of the heart"
VAR(4,"STS")=""
VAR(4,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(4,"SUB",2,"SUB")="IHS Problem List"
VAR(4,"SUB",3,"SUB")="SRCH Family History"
VAR(4,"SYN",1,"DSC")=2764079018
VAR(4,"SYN",1,"TRM")="Family history of cardiac arrhythmia"
VAR(5,"ABN")=0
VAR(5,"CHD",1,"CON")=433305001
VAR(5,"CHD",1,"DTS")=433305
VAR(5,"CHD",1,"TRM")="Family history of congestive heart failure
(situation)"
VAR(5,"CMN")=0
VAR(5,"CON")=429959009
VAR(5,"DTS")=429959
VAR(5,"EPI")=0
VAR(5,"EQM","CON")=""
VAR(5,"EQM","DTS")=""
VAR(5,"EQM","LAT")=""
VAR(5,"EQM","XADT")=""
VAR(5,"EQM","XRDT")=""
VAR(5,"FSN","DSC")=2708296012
VAR(5,"FSN","TRM")="Family history of heart failure (situation)"
VAR(5,"HEAL")=""
VAR(5,"ICD",1,"COD")="Z82.49"
VAR(5,"ICD",1,"TYP")="10D"
VAR(5,"ISA",1,"CON")=275120007
VAR(5,"ISA",1,"DTS")=275120
VAR(5,"ISA",1,"TRM")="Family history: Cardiac disorder (situation)"
VAR(5,"LAT")=0
VAR(5,"PAS")=1
VAR(5,"PRB","DSC")=2764081016
VAR(5,"PRB","TRM")="Family history of heart failure"
VAR(5,"PRE","DSC")=2764081016
VAR(5,"PRE","TRM")="Family history of heart failure"
VAR(5,"STS")=""
VAR(5,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(5,"SUB",2,"SUB")="IHS Problem List"
VAR(5,"SUB",3,"SUB")="SRCH Complementary Medicine"
VAR(5,"SUB",4,"SUB")="SRCH Family History"
VAR(6,"ABN")=0
VAR(6,"CHD",1,"CON")=417648007
VAR(6,"CHD",1,"DTS")=417648
VAR(6,"CHD",1,"TRM")="Family history of pulmonary infundibular stenosis
(situation)"
VAR(6,"CHD",2,"CON")=64041000119100
VAR(6,"CHD",2,"DTS")=1124069933
VAR(6,"CHD",2,"TRM")="Family history of complex congenital heart disease
(situation)"
```

```

VAR(6,"CMN")=0
VAR(6,"CON")=160364005
VAR(6,"DTS")=160364
VAR(6,"EPI")=0
VAR(6,"EQM","CON")=""
VAR(6,"EQM","DTS")=""
VAR(6,"EQM","LAT")=""
VAR(6,"EQM","XADT")=""
VAR(6,"EQM","XRDT")=""
VAR(6,"FSN","DSC")=2607149013
VAR(6,"FSN","TRM")="Family history: Congenital heart disease (situation)"
VAR(6,"HEAL")=""
VAR(6,"ICD",1,"COD")="Z82.79"
VAR(6,"ICD",1,"TYP")="10D"
VAR(6,"ISA",1,"CON")=266908007
VAR(6,"ISA",1,"DTS")=266908
VAR(6,"ISA",1,"TRM")="Family history of congenital anomaly of
cardiovascular system (situation)"
VAR(6,"ISA",2,"CON")=275120007
VAR(6,"ISA",2,"DTS")=275120
VAR(6,"ISA",2,"TRM")="Family history: Cardiac disorder (situation)"
VAR(6,"LAT")=0
VAR(6,"PAS")=1
VAR(6,"PRB","DSC")=249974019
VAR(6,"PRB","TRM")="FH: Congenital heart disease"
VAR(6,"PRE","DSC")=249974019
VAR(6,"PRE","TRM")="FH: Congenital heart disease"
VAR(6,"STS")=""
VAR(6,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(6,"SUB",2,"SUB")="IHS Problem List"
VAR(6,"SUB",3,"SUB")="SRCH Family History"
VAR(6,"SYN",1,"DSC")=2666595013
VAR(6,"SYN",1,"TRM")="Family history: Congenital heart disease"
VAR(6,"SYN",2,"DSC")=541268018
VAR(6,"SYN",2,"TRM")="Family history: Congenital heart disease (context-
dependent category)"
VAR(6,"SYN",3,"DSC")=249973013
VAR(6,"SYN",3,"TRM")="FH: Congen heart disease"
VAR(7,"ABN")=0
VAR(7,"CMN")=0
VAR(7,"CON")=266896003
VAR(7,"DTS")=266896
VAR(7,"EPI")=0
VAR(7,"EQM","CON")=""
VAR(7,"EQM","DTS")=""
VAR(7,"EQM","LAT")=""
VAR(7,"EQM","XADT")=""
VAR(7,"EQM","XRDT")=""
VAR(7,"FSN","DSC")=2610064016
VAR(7,"FSN","TRM")="Family history: Ischemic heart disease at greater than
60 years (situation)"
VAR(7,"HEAL")=""
VAR(7,"ICD",1,"COD")="Z82.49"
VAR(7,"ICD",1,"TYP")="10D"
VAR(7,"ISA",1,"CON")=297242006
VAR(7,"ISA",1,"DTS")=297242
VAR(7,"ISA",1,"TRM")="Family history of ischemic heart disease (situation)"

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VAR(7,"LAT")=0
VAR(7,"PAS")=1
VAR(7,"PRB","DSC")=397698019
VAR(7,"PRB","TRM")="FH: Ischemic heart disease at greater than 60 years"
VAR(7,"PRE","DSC")=397698019
VAR(7,"PRE","TRM")="FH: Ischemic heart disease at greater than 60 years"
VAR(7,"STS")=""
VAR(7,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(7,"SUB",2,"SUB")="IHS Problem List"
VAR(7,"SUB",3,"SUB")="SRCH Family History"
VAR(7,"SYN",1,"DSC")=2838827016
VAR(7,"SYN",1,"TRM")="Family history: Ischaemic heart disease at greater than 60 years"
VAR(7,"SYN",2,"DSC")=2669638016
VAR(7,"SYN",2,"TRM")="Family history: Ischemic heart disease at greater than 60 years"
VAR(7,"SYN",3,"DSC")=659445017
VAR(7,"SYN",3,"TRM")="Family history: Ischemic heart disease at greater than 60 years (context-dependent category)"
VAR(7,"SYN",4,"DSC")=397699010
VAR(7,"SYN",4,"TRM")="FH: Ischaemic heart disease at greater than 60 years"
VAR(8,"ABN")=0
VAR(8,"CMN")=0
VAR(8,"CON")=266895004
VAR(8,"DTS")=266895
VAR(8,"EPI")=0
VAR(8,"EQM","CON")=""
VAR(8,"EQM","DTS")=""
VAR(8,"EQM","LAT")=""
VAR(8,"EQM","XADT")=""
VAR(8,"EQM","XRDT")=""
VAR(8,"FSN","DSC")=2610063010
VAR(8,"FSN","TRM")="Family history: Ischemic heart disease at less than 60 years (situation)"
VAR(8,"HEAL")=""
VAR(8,"ICD",1,"COD")="Z82.49"
VAR(8,"ICD",1,"TYP")="10D"
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,"LAT")=0
VAR(8,"PAS")=1
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,"STS")=""
VAR(8,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(8,"SUB",2,"SUB")="IHS Problem List"
VAR(8,"SUB",3,"SUB")="SRCH Family History"
VAR(8,"SYN",1,"DSC")=2838291017
VAR(8,"SYN",1,"TRM")="Family history: Ischaemic heart disease at less than 60 years"
VAR(8,"SYN",2,"DSC")=2669637014
VAR(8,"SYN",2,"TRM")="Family history: Ischemic heart disease at less than 60 years"
VAR(8,"SYN",3,"DSC")=659444018

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VAR(8,"SYN",3,"TRM")="Family history: Ischemic heart disease at less than
60 years (context-dependent category)"
VAR(8,"SYN",4,"DSC")=397697012
VAR(8,"SYN",4,"TRM")="FH: Ischemic heart dis. <60"
VAR(8,"SYN",5,"DSC")=397695016
VAR(8,"SYN",5,"TRM")="FH: Ischaemic heart disease at less than 60 years"
VAR(8,"SYN",6,"DSC")=397694017
VAR(8,"SYN",6,"TRM")="FH: Ischaemic heart dis. <60"
VAR(9,"ABN")=0
VAR(9,"CMN")=0
VAR(9,"CON")=134439009
VAR(9,"DTS")=134439
VAR(9,"EPI")=0
VAR(9,"EQM","CON")=""
VAR(9,"EQM","DTS")=""
VAR(9,"EQM","LAT")=""
VAR(9,"EQM","XADT")=""
VAR(9,"EQM","XRDT")=""
VAR(9,"FSN","DSC")=2606613016
VAR(9,"FSN","TRM")="Family history: premature coronary heart disease
(situation)"
VAR(9,"HEAL")=""
VAR(9,"ICD",1,"COD")="Z82.49"
VAR(9,"ICD",1,"TYP")="10D"
VAR(9,"ISA",1,"CON")=266894000
VAR(9,"ISA",1,"DTS")=266894
VAR(9,"ISA",1,"TRM")="Family history: Cardiovascular disease (situation)"
VAR(9,"LAT")=0
VAR(9,"PAS")=1
VAR(9,"PRB","DSC")=216245011
VAR(9,"PRB","TRM")="FH: premature coronary heart disease"
VAR(9,"PRE","DSC")=216245011
VAR(9,"PRE","TRM")="FH: premature coronary heart disease"
VAR(9,"STS")=""
VAR(9,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(9,"SUB",2,"SUB")="IHS Problem List"
VAR(9,"SUB",3,"SUB")="SRCH Family History"
VAR(9,"SYN",1,"DSC")=2664552011
VAR(9,"SYN",1,"TRM")="Family history: premature coronary heart disease"
VAR(9,"SYN",2,"DSC")=514018012
VAR(9,"SYN",2,"TRM")="Family history: premature coronary heart disease
(context-dependent category)"
VAR(10,"ABN")=0
VAR(10,"CHD",1,"CON")=698248002
VAR(10,"CHD",1,"DTS")=1124046853
VAR(10,"CHD",1,"TRM")="Family history of cardiac arrhythmia (situation)"
VAR(10,"CHD",2,"CON")=430091005
VAR(10,"CHD",2,"DTS")=430091
VAR(10,"CHD",2,"TRM")="Family history of coronary arteriosclerosis
(situation)"
VAR(10,"CHD",3,"CON")=429978009
VAR(10,"CHD",3,"DTS")=429978
VAR(10,"CHD",3,"TRM")="Family history of endocarditis (situation)"
VAR(10,"CHD",4,"CON")=429959009
VAR(10,"CHD",4,"DTS")=429959
VAR(10,"CHD",4,"TRM")="Family history of heart failure (situation)"
VAR(10,"CHD",5,"CON")=297242006

```

```
VAR(10,"CHD",5,"DTS")=297242
VAR(10,"CHD",5,"TRM")="Family history of ischemic heart disease
(situation)"
VAR(10,"CHD",6,"CON")=430730004
VAR(10,"CHD",6,"DTS")=430730
VAR(10,"CHD",6,"TRM")="Family history of mitral valve regurgitation
(situation)"
VAR(10,"CHD",7,"CON")=439154009
VAR(10,"CHD",7,"DTS")=439154
VAR(10,"CHD",7,"TRM")="Family history of myocarditis (situation)"
VAR(10,"CHD",8,"CON")=429952000
VAR(10,"CHD",8,"DTS")=429952
VAR(10,"CHD",8,"TRM")="Family history of stenosis of aortic valve
(situation)"
VAR(10,"CHD",9,"CON")=390915000
VAR(10,"CHD",9,"DTS")=390915
VAR(10,"CHD",9,"TRM")="Family history: Cardiomyopathy (situation)"
VAR(10,"CHD",10,"CON")=160364005
VAR(10,"CHD",10,"DTS")=160364
VAR(10,"CHD",10,"TRM")="Family history: Congenital heart disease
(situation)"
VAR(10,"CHD",11,"CON")=275124003
VAR(10,"CHD",11,"DTS")=275124
VAR(10,"CHD",11,"TRM")="Family history: Coronary thrombosis (situation)"
VAR(10,"CHD",12,"CON")=7280001000004103
VAR(10,"CHD",12,"DTS")=1124057271
VAR(10,"CHD",12,"TRM")="Family history of pulmonic valve stenosis
(situation)"
VAR(10,"CHD",13,"CON")=117361000119104
VAR(10,"CHD",13,"DTS")=1124069706
VAR(10,"CHD",13,"TRM")="Family history of sudden cardiac death (situation)"
VAR(10,"CHD",14,"CON")=9400001000004105
VAR(10,"CHD",14,"DTS")=1124056675
VAR(10,"CHD",14,"TRM")="Family history of ventricular aneurysm (situation)"
VAR(10,"CMN")=0
VAR(10,"CON")=275120007
VAR(10,"DTS")=275120
VAR(10,"EPI")=0
VAR(10,"EQM","CON")=""
VAR(10,"EQM","DTS")=""
VAR(10,"EQM","LAT")=""
VAR(10,"EQM","XADT")=""
VAR(10,"EQM","XRDT")=""
VAR(10,"FSN","DSC")=2610340013
VAR(10,"FSN","TRM")="Family history: Cardiac disorder (situation)"
VAR(10,"HEAL")=""
VAR(10,"ICD",1,"COD")="Z82.49"
VAR(10,"ICD",1,"TYP")="10D"
VAR(10,"ISA",1,"CON")=266894000
VAR(10,"ISA",1,"DTS")=266894
VAR(10,"ISA",1,"TRM")="Family history: Cardiovascular disease (situation)"
VAR(10,"LAT")=0
VAR(10,"PAS")=1
VAR(10,"PRB","DSC")=411052015
VAR(10,"PRB","TRM")="FH: Cardiac disorder"
VAR(10,"PRE","DSC")=411052015
VAR(10,"PRE","TRM")="FH: Cardiac disorder"
```

```

VAR(10,"STS")=""
VAR(10,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(10,"SUB",2,"SUB")="IHS Problem List"
VAR(10,"SUB",3,"SUB")="SRCH Family History"
VAR(10,"SYN",1,"DSC")=2669864012
VAR(10,"SYN",1,"TRM")="Family history: Cardiac disorder"
VAR(10,"SYN",2,"DSC")=1495321016
VAR(10,"SYN",2,"TRM")="FH: heart disorder"
VAR(10,"SYN",3,"DSC")=1495320015
VAR(10,"SYN",3,"TRM")="FH: cardiac disorder"
VAR(10,"SYN",4,"DSC")=1495319014
VAR(10,"SYN",4,"TRM")="FH: Heart disorder"
VAR(10,"SYN",5,"DSC")=667954016
VAR(10,"SYN",5,"TRM")="Family history: Cardiac disorder (context-dependent
category)"

>

```

Figure A-6: Specified subset search

The follow example shows how to use the parameter to control the maximum results to return. In this case, '4' results were requested. Just Synonym/Preferred information is getting returned:

```

>S OUT="VAR",IN="ACUTE OTITIS MEDIA^S^^^^4^SP^1"

>W $$SEARCH^BSTSAPI(OUT,IN)
2^
>ZW VAR
VAR(1,"ABN")=0
VAR(1,"CMN")=0
VAR(1,"CON")=3110003
VAR(1,"DTS")=3110
VAR(1,"EPI")=0
VAR(1,"EQC","Bilateral","CON")=194290005
VAR(1,"EQC","Bilateral","DTS")=194290
VAR(1,"EQC","Bilateral","XADT")=3160714
VAR(1,"EQC","Bilateral","XRDT")=""
VAR(1,"EQC","Left","CON")=194288009
VAR(1,"EQC","Left","DTS")=194288
VAR(1,"EQC","Left","XADT")=3160714
VAR(1,"EQC","Left","XRDT")=""
VAR(1,"EQC","Right","CON")=194289001
VAR(1,"EQC","Right","DTS")=194289
VAR(1,"EQC","Right","XADT")=3160714
VAR(1,"EQC","Right","XRDT")=""
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=762183010
VAR(1,"FSN","TRM")="Acute otitis media (disorder)"
VAR(1,"HEAL")=""
VAR(1,"LAT")=0
VAR(1,"PAS")=0

```

```

VAR(1,"PRB","DSC")=6257016
VAR(1,"PRB","TRM")="Acute otitis media"
VAR(1,"PRE","DSC")=6257016
VAR(1,"PRE","TRM")="Acute otitis media"
VAR(1,"STS")=""
VAR(1,"SYN",1,"DSC")=1227430015
VAR(1,"SYN",1,"TRM")="AOM - Acute otitis media"
VAR(1,"SYN",2,"DSC")=6258014
VAR(1,"SYN",2,"TRM")="Acute otitis media, NOS"
VAR(2,"ABN")=0
VAR(2,"CMN")=0
VAR(2,"CON")=194288009
VAR(2,"DTS")=194288
VAR(2,"EPI")=0
VAR(2,"EQM","CON")=3110003
VAR(2,"EQM","DTS")=3110
VAR(2,"EQM","LAT")="Left"
VAR(2,"EQM","XADT")=3160714
VAR(2,"EQM","XRDT")=""
VAR(2,"FSN","DSC")=578262017
VAR(2,"FSN","TRM")="Acute left otitis media (disorder)"
VAR(2,"HEAL")=""
VAR(2,"LAT")=0
VAR(2,"PAS")=0
VAR(2,"PRB","DSC")=299071011
VAR(2,"PRB","TRM")="Acute left otitis media"
VAR(2,"PRE","DSC")=299071011
VAR(2,"PRE","TRM")="Acute left otitis media"
VAR(2,"STS")=""
VAR(3,"ABN")=0
VAR(3,"CMN")=0
VAR(3,"CON")=3110003
VAR(3,"DTS")=3110
VAR(3,"EPI")=0
VAR(3,"EQC","Bilateral","CON")=194290005
VAR(3,"EQC","Bilateral","DTS")=194290
VAR(3,"EQC","Bilateral","XADT")=3160714
VAR(3,"EQC","Bilateral","XRDT")=""
VAR(3,"EQC","Left","CON")=194288009
VAR(3,"EQC","Left","DTS")=194288
VAR(3,"EQC","Left","XADT")=3160714
VAR(3,"EQC","Left","XRDT")=""
VAR(3,"EQC","Right","CON")=194289001
VAR(3,"EQC","Right","DTS")=194289
VAR(3,"EQC","Right","XADT")=3160714
VAR(3,"EQC","Right","XRDT")=""
VAR(3,"EQM","CON")=""
VAR(3,"EQM","DTS")=""
VAR(3,"EQM","LAT")=""
VAR(3,"EQM","XADT")=""
VAR(3,"EQM","XRDT")=""
VAR(3,"FSN","DSC")=762183010
VAR(3,"FSN","TRM")="Acute otitis media (disorder)"
VAR(3,"HEAL")=""
VAR(3,"LAT")=0
VAR(3,"PAS")=0
VAR(3,"PRB","DSC")=1227430015

```

```

VAR(3,"PRB","TRM")="AOM - Acute otitis media"
VAR(3,"PRE","DSC")=6257016
VAR(3,"PRE","TRM")="Acute otitis media"
VAR(3,"STS")=""
VAR(3,"SYN",1,"DSC")=1227430015
VAR(3,"SYN",1,"TRM")="AOM - Acute otitis media"
VAR(3,"SYN",2,"DSC")=6258014
VAR(3,"SYN",2,"TRM")="Acute otitis media, NOS"
VAR(4,"ABN")=0
VAR(4,"CMN")=0
VAR(4,"CON")=194289001
VAR(4,"DTS")=194289
VAR(4,"EPI")=0
VAR(4,"EQM","CON")=3110003
VAR(4,"EQM","DTS")=3110
VAR(4,"EQM","LAT")="Right"
VAR(4,"EQM","XADT")=3160714
VAR(4,"EQM","XRDT")=""
VAR(4,"FSN","DSC")=578263010
VAR(4,"FSN","TRM")="Acute right otitis media (disorder)"
VAR(4,"HEAL")=""
VAR(4,"LAT")=0
VAR(4,"PAS")=0
VAR(4,"PRB","DSC")=299072016
VAR(4,"PRB","TRM")="Acute right otitis media"
VAR(4,"PRE","DSC")=299072016
VAR(4,"PRE","TRM")="Acute right otitis media"
VAR(4,"STS")=""
VAR(4,"SYN",1,"DSC")="T1999006923"
VAR(4,"SYN",1,"TRM")="Right acute otitis media"
>

```

Figure A-7: Maximum results parameter

The following examples show how the Batch parameters can be used 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="DIABETES^F^^^^4^SP^1^1^2"

>W $$$SEARCH^BSTSAPI("VAR","DIABETES^F^^^^4^SP^1^1^2")
2^
>ZW @OUT
VAR(1,"ABN")=0
VAR(1,"CMN")=0
VAR(1,"CON")=1481000119100
VAR(1,"DTS")=1124049555
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=656541000124118

```

```

VAR(1,"FSN","TRM")="Diabetes mellitus type 2 without retinopathy
(disorder)"
VAR(1,"HEAL")=""
VAR(1,"LAT")=0
VAR(1,"PAS")=0
VAR(1,"PRB","DSC")=3013049012
VAR(1,"PRB","TRM")="Diabetes mellitus type 2 without retinopathy"
VAR(1,"PRE","DSC")=3013049012
VAR(1,"PRE","TRM")="Diabetes mellitus type 2 without retinopathy"
VAR(1,"STS")=""
VAR(1,"SYN",1,"DSC")=11801000119113
VAR(1,"SYN",1,"TRM")="Diabetes type 2, without retinopathy"
VAR(1,"SYN",2,"DSC")=11791000119112
VAR(1,"SYN",2,"TRM")="DM 2 wo diabetic retinopathy"
VAR(1,"SYN",3,"DSC")=656551000124116
VAR(1,"SYN",3,"TRM")="Diabetes mellitus type 2 without retinopathy"
VAR(2,"ABN")=0
VAR(2,"CMN")=0
VAR(2,"CON")=427571000
VAR(2,"DTS")=427571
VAR(2,"EPI")=0
VAR(2,"EQM","CON")=""
VAR(2,"EQM","DTS")=""
VAR(2,"EQM","LAT")=""
VAR(2,"EQM","XADT")=""
VAR(2,"EQM","XRDT")=""
VAR(2,"FSN","DSC")=2663094011
VAR(2,"FSN","TRM")="Amyotrophy due to type 1 diabetes mellitus (disorder)"
VAR(2,"HEAL")=""
VAR(2,"LAT")=0
VAR(2,"PAS")=0
VAR(2,"PRB","DSC")=2675115014
VAR(2,"PRB","TRM")="Amyotrophy due to type 1 diabetes mellitus"
VAR(2,"PRE","DSC")=2675115014
VAR(2,"PRE","TRM")="Amyotrophy due to type 1 diabetes mellitus"
VAR(2,"STS")=""
VAR(2,"SYN",1,"DSC")=320601000119114
VAR(2,"SYN",1,"TRM")="Diabetes, type 1 with amyotrophy"
VAR(2,"SYN",2,"DSC")=320591000119119
VAR(2,"SYN",2,"TRM")="DM 1 w diabetic amyotrophy"

>

```

Figure A-8: Batch parameters with partial search listings

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 in the total list of results:

```

>S OUT="VAR",IN="DIABETES^F^^^^4^SP^1^3^2"

>W $$$SEARCH^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1,"ABN")=0
VAR(1,"CMN")=0
VAR(1,"CON")=1481000119100
VAR(1,"DTS")=1124049555

```

```

VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=656541000124118
VAR(1,"FSN","TRM")="Diabetes mellitus type 2 without retinopathy
(disorder)"
VAR(1,"HEAL")=""
VAR(1,"LAT")=0
VAR(1,"PAS")=0
VAR(1,"PRB","DSC")=3013049012
VAR(1,"PRB","TRM")="Diabetes mellitus type 2 without retinopathy"
VAR(1,"PRE","DSC")=3013049012
VAR(1,"PRE","TRM")="Diabetes mellitus type 2 without retinopathy"
VAR(1,"STS")=""
VAR(1,"SYN",1,"DSC")=11801000119113
VAR(1,"SYN",1,"TRM")="Diabetes type 2, without retinopathy"
VAR(1,"SYN",2,"DSC")=11791000119112
VAR(1,"SYN",2,"TRM")="DM 2 wo diabetic retinopathy"
VAR(1,"SYN",3,"DSC")=656551000124116
VAR(1,"SYN",3,"TRM")="Diabetes mellitus type 2 without retinopathy"
VAR(2,"ABN")=0
VAR(2,"CMN")=0
VAR(2,"CON")=427571000
VAR(2,"DTS")=427571
VAR(2,"EPI")=0
VAR(2,"EQM","CON")=""
VAR(2,"EQM","DTS")=""
VAR(2,"EQM","LAT")=""
VAR(2,"EQM","XADT")=""
VAR(2,"EQM","XRDT")=""
VAR(2,"FSN","DSC")=2663094011
VAR(2,"FSN","TRM")="Amyotrophy due to type 1 diabetes mellitus (disorder)"
VAR(2,"HEAL")=""
VAR(2,"LAT")=0
VAR(2,"PAS")=0
VAR(2,"PRB","DSC")=2675115014
VAR(2,"PRB","TRM")="Amyotrophy due to type 1 diabetes mellitus"
VAR(2,"PRE","DSC")=2675115014
VAR(2,"PRE","TRM")="Amyotrophy due to type 1 diabetes mellitus"
VAR(2,"STS")=""
VAR(2,"SYN",1,"DSC")=320601000119114
VAR(2,"SYN",1,"TRM")="Diabetes, type 1 with amyotrophy"
VAR(2,"SYN",2,"DSC")=320591000119119
VAR(2,"SYN",2,"TRM")="DM 1 w diabetic amyotrophy"

>

```

Figure A-9: Batch parameters, returning results in groups

The following example shows the first two and last two records (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^
>ZW @OUT
VAR(1,"ABN")=0
VAR(1,"CMN")=0
VAR(1,"CON")=851732
VAR(1,"DTS")=11328554
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=2973307
VAR(1,"FSN","TRM")="Acacia pollen extract"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"HEAL")=""
VAR(1,"LAT")=0
VAR(1,"PAS")=0
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,"STS")=""
VAR(1,"SUB",1,"SUB")="RXNO SRCH Drug Ingredients All"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"TTY",1,"TTY")="IN"
VAR(1,"TTY",1,"XADT")=3091101.06
VAR(1,"TTY",1,"XRDT")=3500101.19
VAR(1,"XADT")=""
VAR(1,"XRDT")=""
VAR(2,"ABN")=0
VAR(2,"CMN")=0
VAR(2,"CON")=1362813
VAR(2,"DTS")=11597903
VAR(2,"EPI")=0
VAR(2,"EQM","CON")=""
VAR(2,"EQM","DTS")=""
VAR(2,"EQM","LAT")=""
VAR(2,"EQM","XADT")=""
VAR(2,"EQM","XRDT")=""
VAR(2,"FSN","DSC")=5040371
VAR(2,"FSN","TRM")="Acacia decurrens extract"
VAR(2,"FSN","XADT")=""
VAR(2,"FSN","XRDT")=""
VAR(2,"HEAL")=""
VAR(2,"LAT")=0
VAR(2,"PAS")=0
VAR(2,"PRB","DSC")=5040371
VAR(2,"PRB","TRM")="Acacia decurrens extract"
VAR(2,"PRE","DSC")=5040371
VAR(2,"PRE","TRM")="Acacia decurrens extract"
VAR(2,"PRE","XADT")=""
```

```

VAR (2, "PRE", "XRDT")=""
VAR (2, "STS")=""
VAR (2, "SUB", 1, "SUB")="RXNO SRCH Drug Ingredients All"
VAR (2, "SUB", 1, "XADT")=""
VAR (2, "SUB", 1, "XRDT")=""
VAR (2, "TTY", 1, "TTY")="IN"
VAR (2, "TTY", 1, "XADT")=3130107.07
VAR (2, "TTY", 1, "XRDT")=3500101.19
VAR (2, "XADT")=""
VAR (2, "XRDT")=""

...

VAR (24, "ABN")=0
VAR (24, "CMN")=0
VAR (24, "CON")=895356
VAR (24, "DTS")=11356365
VAR (24, "EPI")=0
VAR (24, "EQM", "CON")=""
VAR (24, "EQM", "DTS")=""
VAR (24, "EQM", "LAT")=""
VAR (24, "EQM", "XADT")=""
VAR (24, "EQM", "XRDT")=""
VAR (24, "FSN", "DSC")=3049338
VAR (24, "FSN", "TRM")="Cootamundra wattle pollen extract 50 MG/ML Injectable Solution"
VAR (24, "FSN", "XADT")=""
VAR (24, "FSN", "XRDT")=""
VAR (24, "HEAL")=""
VAR (24, "LAT")=0
VAR (24, "PAS")=0
VAR (24, "PRB", "DSC")=3057802
VAR (24, "PRB", "TRM")="Acacia baileyana pollen extract 0.05 GM/ML Injectable Solution"
VAR (24, "PRE", "DSC")=3049338
VAR (24, "PRE", "TRM")="Cootamundra wattle pollen extract 50 MG/ML Injectable Solution"
VAR (24, "PRE", "XADT")=""
VAR (24, "PRE", "XRDT")=""
VAR (24, "STS")=""
VAR (24, "SYN", 1, "DSC")=3057802
VAR (24, "SYN", 1, "TRM")="Acacia baileyana pollen extract 0.05 GM/ML Injectable Solution"
VAR (24, "SYN", 1, "XADT")=""
VAR (24, "SYN", 1, "XRDT")=""
VAR (24, "SYN", 2, "DSC")=3049555
VAR (24, "SYN", 2, "TRM")="Acacia baileyana pollen extract 50 MG/ML Injectable Solution"
VAR (24, "SYN", 2, "XADT")=""
VAR (24, "SYN", 2, "XRDT")=""
VAR (24, "TTY", 1, "TTY")="SCD"
VAR (24, "TTY", 1, "XADT")=3110606.06
VAR (24, "TTY", 1, "XRDT")=3500101.19
VAR (24, "XADT")=""
VAR (24, "XRDT")=""
VAR (25, "ABN")=0
VAR (25, "CMN")=0

```

```

VAR (25, "CON")=899502
VAR (25, "DTS")=11360581
VAR (25, "EPI")=0
VAR (25, "EQM", "CON")=""
VAR (25, "EQM", "DTS")=""
VAR (25, "EQM", "LAT")=""
VAR (25, "EQM", "XADT")=""
VAR (25, "EQM", "XRDT")=""
VAR (25, "FSN", "DSC")=3057065
VAR (25, "FSN", "TRM")="Sydney golden wattle pollen extract 500 UNT/ML
Injectable Solution"
VAR (25, "FSN", "XADT")=""
VAR (25, "FSN", "XRDT")=""
VAR (25, "HEAL")=""
VAR (25, "LAT")=0
VAR (25, "PAS")=0
VAR (25, "PRB", "DSC")=3057066
VAR (25, "PRB", "TRM")="acacia longifolia pollen extract 500 UNT/ML Injectable
Solution"
VAR (25, "PRE", "DSC")=3057065
VAR (25, "PRE", "TRM")="Sydney golden wattle pollen extract 500 UNT/ML
Injectable Solution"
VAR (25, "PRE", "XADT")=""
VAR (25, "PRE", "XRDT")=""
VAR (25, "STS")=""
VAR (25, "SYN", 1, "DSC")=3057066
VAR (25, "SYN", 1, "TRM")="acacia longifolia pollen extract 500 UNT/ML
Injectable Solution"
VAR (25, "SYN", 1, "XADT")=""
VAR (25, "SYN", 1, "XRDT")=""
VAR (25, "TTY", 1, "TTY")="SCD"
VAR (25, "TTY", 1, "XADT")=3100401.06
VAR (25, "TTY", 1, "XRDT")=3500101.19
VAR (25, "XADT")=""
VAR (25, "XRDT")=""

>

```

Figure A-10: RxNorm codeset lookup

The following example shows the first two and last two records (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, "ABN")=0
VAR (1, "CMN")=0
VAR (1, "CON")="24SO2J2960"
VAR (1, "DTS")=8773
VAR (1, "EPI")=0
VAR (1, "EQM", "CON")=""
VAR (1, "EQM", "DTS")=""
VAR (1, "EQM", "LAT")=""
VAR (1, "EQM", "XADT")=""

```

```

VAR (1, "EQM", "XRDT")=""
VAR (1, "FSN", "DSC")="24SO2J2960.8773"
VAR (1, "FSN", "TRM")="ACACIA LONGIFOLIA POLLEN"
VAR (1, "FSN", "XADT")=""
VAR (1, "FSN", "XRDT")=""
VAR (1, "HEAL")=""
VAR (1, "LAT")=0
VAR (1, "PAS")=0
VAR (1, "PRB", "DSC")="24SO2J2960.71552"
VAR (1, "PRB", "TRM")="POLLENS - TREES, ACACIA ACACIA LONGIFOLIA"
VAR (1, "STS")=""
VAR (1, "SYN", 1, "DSC")="24SO2J2960.295787"
VAR (1, "SYN", 1, "TRM")="ACACIA LONGIFOLIA POLLEN [WHO-DD]"
VAR (1, "SYN", 1, "XADT")=""
VAR (1, "SYN", 1, "XRDT")=""
VAR (1, "SYN", 2, "DSC")="24SO2J2960.295786"
VAR (1, "SYN", 2, "TRM")="ALLERGENIC EXTRACT- ACACIA ACACIA TONGIFOLIA"
VAR (1, "SYN", 2, "XADT")=""
VAR (1, "SYN", 2, "XRDT")=""
VAR (1, "SYN", 3, "DSC")="24SO2J2960.165113"
VAR (1, "SYN", 3, "TRM")="SYDNEY GOLDEN WATTLE POLLEN EXTRACT"
VAR (1, "SYN", 3, "XADT")=""
VAR (1, "SYN", 3, "XRDT")=""
VAR (1, "SYN", 4, "DSC")="24SO2J2960.87209"
VAR (1, "SYN", 4, "TRM")="ACACIA LONGIFOLIA POLLEN EXTRACT"
VAR (1, "SYN", 4, "XADT")=""
VAR (1, "SYN", 4, "XRDT")=""
VAR (1, "SYN", 5, "DSC")="24SO2J2960.71552"
VAR (1, "SYN", 5, "TRM")="POLLENS - TREES, ACACIA ACACIA LONGIFOLIA"
VAR (1, "SYN", 5, "XADT")=""
VAR (1, "SYN", 5, "XRDT")=""
VAR (1, "SYN", 6, "DSC")="24SO2J2960.8775"
VAR (1, "SYN", 6, "TRM")="WESTERN YARROW POLLEN"
VAR (1, "SYN", 6, "XADT")=""
VAR (1, "SYN", 6, "XRDT")=""
VAR (1, "SYN", 7, "DSC")="24SO2J2960.8774"
VAR (1, "SYN", 7, "TRM")="SYDNEY GOLDEN WATTLE POLLEN"
VAR (1, "SYN", 7, "XADT")=""
VAR (1, "SYN", 7, "XRDT")=""
VAR (1, "SYN", 8, "DSC")="24SO2J2960.8772"
VAR (1, "SYN", 8, "TRM")="ACACIA LATIFOLIA POLLEN"
VAR (1, "SYN", 8, "XADT")=""
VAR (1, "SYN", 8, "XRDT")=""
VAR (1, "XADT")=""
VAR (1, "XRDT")=""
VAR (2, "ABN")=0
VAR (2, "CMN")=0
VAR (2, "CON")="24SO2J2960"
VAR (2, "DTS")=8773
VAR (2, "EPI")=0
VAR (2, "EQM", "CON")=""
VAR (2, "EQM", "DTS")=""
VAR (2, "EQM", "LAT")=""
VAR (2, "EQM", "XADT")=""
VAR (2, "EQM", "XRDT")=""
VAR (2, "FSN", "DSC")="24SO2J2960.8773"
VAR (2, "FSN", "TRM")="ACACIA LONGIFOLIA POLLEN"

```

```

VAR (2, "FSN", "XADT")=""
VAR (2, "FSN", "XRDT")=""
VAR (2, "HEAL")=""
VAR (2, "LAT")=0
VAR (2, "PAS")=0
VAR (2, "PRB", "DSC")="24SO2J2960.295786"
VAR (2, "PRB", "TRM")="ALLERGENIC EXTRACT- ACACIA ACACIA TONGIFOLIA"
VAR (2, "STS")=""
VAR (2, "SYN", 1, "DSC")="24SO2J2960.295787"
VAR (2, "SYN", 1, "TRM")="ACACIA LONGIFOLIA POLLEN [WHO-DD]"
VAR (2, "SYN", 1, "XADT")=""
VAR (2, "SYN", 1, "XRDT")=""
VAR (2, "SYN", 2, "DSC")="24SO2J2960.295786"
VAR (2, "SYN", 2, "TRM")="ALLERGENIC EXTRACT- ACACIA ACACIA TONGIFOLIA"
VAR (2, "SYN", 2, "XADT")=""
VAR (2, "SYN", 2, "XRDT")=""
VAR (2, "SYN", 3, "DSC")="24SO2J2960.165113"
VAR (2, "SYN", 3, "TRM")="SYDNEY GOLDEN WATTLE POLLEN EXTRACT"
VAR (2, "SYN", 3, "XADT")=""
VAR (2, "SYN", 3, "XRDT")=""
VAR (2, "SYN", 4, "DSC")="24SO2J2960.87209"
VAR (2, "SYN", 4, "TRM")="ACACIA LONGIFOLIA POLLEN EXTRACT"
VAR (2, "SYN", 4, "XADT")=""
VAR (2, "SYN", 4, "XRDT")=""
VAR (2, "SYN", 5, "DSC")="24SO2J2960.71552"
VAR (2, "SYN", 5, "TRM")="POLLENS - TREES, ACACIA ACACIA LONGIFOLIA"
VAR (2, "SYN", 5, "XADT")=""
VAR (2, "SYN", 5, "XRDT")=""
VAR (2, "SYN", 6, "DSC")="24SO2J2960.8775"
VAR (2, "SYN", 6, "TRM")="WESTERN YARROW POLLEN"
VAR (2, "SYN", 6, "XADT")=""
VAR (2, "SYN", 6, "XRDT")=""
VAR (2, "SYN", 7, "DSC")="24SO2J2960.8774"
VAR (2, "SYN", 7, "TRM")="SYDNEY GOLDEN WATTLE POLLEN"
VAR (2, "SYN", 7, "XADT")=""
VAR (2, "SYN", 7, "XRDT")=""
VAR (2, "SYN", 8, "DSC")="24SO2J2960.8772"
VAR (2, "SYN", 8, "TRM")="ACACIA LATIFOLIA POLLEN"
VAR (2, "SYN", 8, "XADT")=""
VAR (2, "SYN", 8, "XRDT")=""
VAR (2, "XADT")=""
VAR (2, "XRDT")=""

...

VAR (9, "ABN")=0
VAR (9, "CMN")=0
VAR (9, "CON")="5C5403N260"
VAR (9, "DTS")=57
VAR (9, "EPI")=0
VAR (9, "EQM", "CON")=""
VAR (9, "EQM", "DTS")=""
VAR (9, "EQM", "LAT")=""
VAR (9, "EQM", "XADT")=""
VAR (9, "EQM", "XRDT")=""
VAR (9, "FSN", "DSC")="5C5403N260.57"
VAR (9, "FSN", "TRM")="ACACIA"

```

```
VAR (9, "FSN", "XADT")=""
VAR (9, "FSN", "XRDT")=""
VAR (9, "HEAL")=""
VAR (9, "LAT")=0
VAR (9, "PAS")=0
VAR (9, "PRB", "DSC")="5C5403N26O.57"
VAR (9, "PRB", "TRM")="ACACIA"
VAR (9, "STS")=""
VAR (9, "SYN", 1, "DSC")="5C5403N26O.316825"
VAR (9, "SYN", 1, "TRM")="ACACIA POWDER [VANDF]"
VAR (9, "SYN", 1, "XADT")=""
VAR (9, "SYN", 1, "XRDT")=""
VAR (9, "SYN", 2, "DSC")="5C5403N26O.316824"
VAR (9, "SYN", 2, "TRM")="ACACIA [VANDF]"
VAR (9, "SYN", 2, "XADT")=""
VAR (9, "SYN", 2, "XRDT")=""
VAR (9, "SYN", 3, "DSC")="5C5403N26O.316823"
VAR (9, "SYN", 3, "TRM")="GUM ARABIC [VANDF]"
VAR (9, "SYN", 3, "XADT")=""
VAR (9, "SYN", 3, "XRDT")=""
VAR (9, "SYN", 4, "DSC")="5C5403N26O.316822"
VAR (9, "SYN", 4, "TRM")="PLANTS AND PLANT PARTS, GUM, ACACIA OR ARABIC ACACIA SENEGAL"
VAR (9, "SYN", 4, "XADT")=""
VAR (9, "SYN", 4, "XRDT")=""
VAR (9, "SYN", 5, "DSC")="5C5403N26O.316821"
VAR (9, "SYN", 5, "TRM")="ACACIA SENEGAL GUM [WHO-DD]"
VAR (9, "SYN", 5, "XADT")=""
VAR (9, "SYN", 5, "XRDT")=""
VAR (9, "SYN", 6, "DSC")="5C5403N26O.316820"
VAR (9, "SYN", 6, "TRM")="ACACIA SENEGAL RESIN [WHO-DD]"
VAR (9, "SYN", 6, "XADT")=""
VAR (9, "SYN", 6, "XRDT")=""
VAR (9, "SYN", 7, "DSC")="5C5403N26O.316819"
VAR (9, "SYN", 7, "TRM")="ACACIA [HSDB]"
VAR (9, "SYN", 7, "XADT")=""
VAR (9, "SYN", 7, "XRDT")=""
VAR (9, "SYN", 8, "DSC")="5C5403N26O.316818"
VAR (9, "SYN", 8, "TRM")="ARABIC GUM ALLERGENIC EXTRACT"
VAR (9, "SYN", 8, "XADT")=""
VAR (9, "SYN", 8, "XRDT")=""
VAR (9, "SYN", 9, "DSC")="5C5403N26O.316817"
VAR (9, "SYN", 9, "TRM")="ALLERGENIC EXTRACT- GUM, ACACIA OR ARABIC ACACIA SENEGAL"
VAR (9, "SYN", 9, "XADT")=""
VAR (9, "SYN", 9, "XRDT")=""
VAR (9, "SYN", 10, "DSC")="5C5403N26O.316816"
VAR (9, "SYN", 10, "TRM")="AE-GUM, ACACIA"
VAR (9, "SYN", 10, "XADT")=""
VAR (9, "SYN", 10, "XRDT")=""
VAR (9, "SYN", 11, "DSC")="5C5403N26O.316815"
VAR (9, "SYN", 11, "TRM")="AE-GUM, ARABIC"
VAR (9, "SYN", 11, "XADT")=""
VAR (9, "SYN", 11, "XRDT")=""
VAR (9, "SYN", 12, "DSC")="5C5403N26O.165026"
VAR (9, "SYN", 12, "TRM")="ACACIA [II]"
VAR (9, "SYN", 12, "XADT")=""
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VAR (9, "SYN", 12, "XRDT")=""
VAR (9, "SYN", 13, "DSC")="5C5403N26O.165025"
VAR (9, "SYN", 13, "TRM")="ACACIA MUCILAGE [II]"
VAR (9, "SYN", 13, "XADT")=""
VAR (9, "SYN", 13, "XRDT")=""
VAR (9, "SYN", 14, "DSC")="5C5403N26O.165024"
VAR (9, "SYN", 14, "TRM")="GUM ARABIC [FCC]"
VAR (9, "SYN", 14, "XADT")=""
VAR (9, "SYN", 14, "XRDT")=""
VAR (9, "SYN", 15, "DSC")="5C5403N26O.165023"
VAR (9, "SYN", 15, "TRM")="ACACIA [MI]"
VAR (9, "SYN", 15, "XADT")=""
VAR (9, "SYN", 15, "XRDT")=""
VAR (9, "SYN", 16, "DSC")="5C5403N26O.165022"
VAR (9, "SYN", 16, "TRM")="ACACIA [MART.]"
VAR (9, "SYN", 16, "XADT")=""
VAR (9, "SYN", 16, "XRDT")=""
VAR (9, "SYN", 17, "DSC")="5C5403N26O.165021"
VAR (9, "SYN", 17, "TRM")="ACACIA SENEGAL GUM [INCI]"
VAR (9, "SYN", 17, "XADT")=""
VAR (9, "SYN", 17, "XRDT")=""
VAR (9, "SYN", 18, "DSC")="5C5403N26O.165020"
VAR (9, "SYN", 18, "TRM")="ACACIA SENEGAL GUM EXTRACT [INCI]"
VAR (9, "SYN", 18, "XADT")=""
VAR (9, "SYN", 18, "XRDT")=""
VAR (9, "SYN", 19, "DSC")="5C5403N26O.165019"
VAR (9, "SYN", 19, "TRM")="ACACIA SENEGAL GUM"
VAR (9, "SYN", 19, "XADT")=""
VAR (9, "SYN", 19, "XRDT")=""
VAR (9, "SYN", 20, "DSC")="5C5403N26O.87154"
VAR (9, "SYN", 20, "TRM")="ARABIC GUM"
VAR (9, "SYN", 20, "XADT")=""
VAR (9, "SYN", 20, "XRDT")=""
VAR (9, "SYN", 21, "DSC")="5C5403N26O.87153"
VAR (9, "SYN", 21, "TRM")="ACACIA, SPRAY-DRIED [EP]"
VAR (9, "SYN", 21, "XADT")=""
VAR (9, "SYN", 21, "XRDT")=""
VAR (9, "SYN", 22, "DSC")="5C5403N26O.87152"
VAR (9, "SYN", 22, "TRM")="ACACIA, SPRAY-DRIED"
VAR (9, "SYN", 22, "XADT")=""
VAR (9, "SYN", 22, "XRDT")=""
VAR (9, "SYN", 23, "DSC")="5C5403N26O.87151"
VAR (9, "SYN", 23, "TRM")="ACACIA GUM [FHFI]"
VAR (9, "SYN", 23, "XADT")=""
VAR (9, "SYN", 23, "XRDT")=""
VAR (9, "SYN", 24, "DSC")="5C5403N26O.87150"
VAR (9, "SYN", 24, "TRM")="ACACIA ARABICA [HPUS]"
VAR (9, "SYN", 24, "XADT")=""
VAR (9, "SYN", 24, "XRDT")=""
VAR (9, "SYN", 25, "DSC")="5C5403N26O.87149"
VAR (9, "SYN", 25, "TRM")="ACACIA SENEGAL GUM EXTRACT"
VAR (9, "SYN", 25, "XADT")=""
VAR (9, "SYN", 25, "XRDT")=""
VAR (9, "SYN", 26, "DSC")="5C5403N26O.87148"
VAR (9, "SYN", 26, "TRM")="ACACIA POWDER"
VAR (9, "SYN", 26, "XADT")=""
VAR (9, "SYN", 26, "XRDT")=""
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VAR (9, "SYN", 27, "DSC")="5C5403N26O.21204"  
VAR (9, "SYN", 27, "TRM")="THORNY ACACIA RESIN"  
VAR (9, "SYN", 27, "XADT")=""  
VAR (9, "SYN", 27, "XRDT")=""  
VAR (9, "SYN", 28, "DSC")="5C5403N26O.21203"  
VAR (9, "SYN", 28, "TRM")="SENEGALIA SENEGAL RESIN"  
VAR (9, "SYN", 28, "XADT")=""  
VAR (9, "SYN", 28, "XRDT")=""  
VAR (9, "SYN", 29, "DSC")="5C5403N26O.21202"  
VAR (9, "SYN", 29, "TRM")="SENEGAL GUM"  
VAR (9, "SYN", 29, "XADT")=""  
VAR (9, "SYN", 29, "XRDT")=""  
VAR (9, "SYN", 30, "DSC")="5C5403N26O.21201"  
VAR (9, "SYN", 30, "TRM")="RFAUDRAKSHA RESIN"  
VAR (9, "SYN", 30, "XADT")=""  
VAR (9, "SYN", 30, "XRDT")=""  
VAR (9, "SYN", 31, "DSC")="5C5403N26O.21200"  
VAR (9, "SYN", 31, "TRM")="MIMOSA SENEGAL RESIN"  
VAR (9, "SYN", 31, "XADT")=""  
VAR (9, "SYN", 31, "XRDT")=""  
VAR (9, "SYN", 32, "DSC")="5C5403N26O.21199"  
VAR (9, "SYN", 32, "TRM")="KHER RESIN"  
VAR (9, "SYN", 32, "XADT")=""  
VAR (9, "SYN", 32, "XRDT")=""  
VAR (9, "SYN", 33, "DSC")="5C5403N26O.21198"  
VAR (9, "SYN", 33, "TRM")="GUMMI ARABICUM"  
VAR (9, "SYN", 33, "XADT")=""  
VAR (9, "SYN", 33, "XRDT")=""  
VAR (9, "SYN", 34, "DSC")="5C5403N26O.21197"  
VAR (9, "SYN", 34, "TRM")="GUM SENEGAL"  
VAR (9, "SYN", 34, "XADT")=""  
VAR (9, "SYN", 34, "XRDT")=""  
VAR (9, "SYN", 35, "DSC")="5C5403N26O.21196"  
VAR (9, "SYN", 35, "TRM")="ACACIAE GUMMI"  
VAR (9, "SYN", 35, "XADT")=""  
VAR (9, "SYN", 35, "XRDT")=""  
VAR (9, "SYN", 36, "DSC")="5C5403N26O.21195"  
VAR (9, "SYN", 36, "TRM")="ACACIA VOLKII RESIN"  
VAR (9, "SYN", 36, "XADT")=""  
VAR (9, "SYN", 36, "XRDT")=""  
VAR (9, "SYN", 37, "DSC")="5C5403N26O.21194"  
VAR (9, "SYN", 37, "TRM")="ACACIA SPINOSA RESIN"  
VAR (9, "SYN", 37, "XADT")=""  
VAR (9, "SYN", 37, "XRDT")=""  
VAR (9, "SYN", 38, "DSC")="5C5403N26O.21193"  
VAR (9, "SYN", 38, "TRM")="ACACIA RUPESTRIS RESIN"  
VAR (9, "SYN", 38, "XADT")=""  
VAR (9, "SYN", 38, "XRDT")=""  
VAR (9, "SYN", 39, "DSC")="5C5403N26O.21192"  
VAR (9, "SYN", 39, "TRM")="ACACIA OXYOSPRION RESIN"  
VAR (9, "SYN", 39, "XADT")=""  
VAR (9, "SYN", 39, "XRDT")=""  
VAR (9, "SYN", 40, "DSC")="5C5403N26O.21191"  
VAR (9, "SYN", 40, "TRM")="ACACIA MUCILAGE"  
VAR (9, "SYN", 40, "XADT")=""  
VAR (9, "SYN", 40, "XRDT")=""  
VAR (9, "SYN", 41, "DSC")="5C5403N26O.21190"
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VAR (9, "SYN", 41, "TRM")="ACACIA CUFODONTII RESIN"  
VAR (9, "SYN", 41, "XADT")=""  
VAR (9, "SYN", 41, "XRDT")=""  
VAR (9, "SYN", 42, "DSC")="5C5403N260.21189"  
VAR (9, "SYN", 42, "TRM")="ACACIA CIRCUMMARGINATA RESIN"  
VAR (9, "SYN", 42, "XADT")=""  
VAR (9, "SYN", 42, "XRDT")=""  
VAR (9, "SYN", 43, "DSC")="5C5403N260.21188"  
VAR (9, "SYN", 43, "TRM")="ACACIA ARABICA"  
VAR (9, "SYN", 43, "XADT")=""  
VAR (9, "SYN", 43, "XRDT")=""  
VAR (9, "SYN", 44, "DSC")="5C5403N260.8759"  
VAR (9, "SYN", 44, "TRM")="GUM ARABIC"  
VAR (9, "SYN", 44, "XADT")=""  
VAR (9, "SYN", 44, "XRDT")=""  
VAR (9, "SYN", 45, "DSC")="5C5403N260.8758"  
VAR (9, "SYN", 45, "TRM")="GUM ACACIA"  
VAR (9, "SYN", 45, "XADT")=""  
VAR (9, "SYN", 45, "XRDT")=""  
VAR (9, "SYN", 46, "DSC")="5C5403N260.8757"  
VAR (9, "SYN", 46, "TRM")="ACACIA VEREK RESIN"  
VAR (9, "SYN", 46, "XADT")=""  
VAR (9, "SYN", 46, "XRDT")=""  
VAR (9, "SYN", 47, "DSC")="5C5403N260.8756"  
VAR (9, "SYN", 47, "TRM")="ACACIA SENEGAL RESIN"  
VAR (9, "SYN", 47, "XADT")=""  
VAR (9, "SYN", 47, "XRDT")=""  
VAR (9, "SYN", 48, "DSC")="5C5403N260.8755"  
VAR (9, "SYN", 48, "TRM")="ACACIA GUM"  
VAR (9, "SYN", 48, "XADT")=""  
VAR (9, "SYN", 48, "XRDT")=""  
VAR (9, "XADT")=""  
VAR (9, "XRDT")=""  
VAR (10, "ABN")=0  
VAR (10, "CMN")=0  
VAR (10, "CON")="5C5403N260"  
VAR (10, "DTS")=57  
VAR (10, "EPI")=0  
VAR (10, "EQM", "CON")=""  
VAR (10, "EQM", "DTS")=""  
VAR (10, "EQM", "LAT")=""  
VAR (10, "EQM", "XADT")=""  
VAR (10, "EQM", "XRDT")=""  
VAR (10, "FSN", "DSC")="5C5403N260.57"  
VAR (10, "FSN", "TRM")="ACACIA"  
VAR (10, "FSN", "XADT")=""  
VAR (10, "FSN", "XRDT")=""  
VAR (10, "HEAL")=""  
VAR (10, "LAT")=0  
VAR (10, "PAS")=0  
VAR (10, "PRB", "DSC")="5C5403N260.8755"  
VAR (10, "PRB", "TRM")="ACACIA GUM"  
VAR (10, "STS")=""  
VAR (10, "SYN", 1, "DSC")="5C5403N260.316825"  
VAR (10, "SYN", 1, "TRM")="ACACIA POWDER [VANDF]"  
VAR (10, "SYN", 1, "XADT")=""  
VAR (10, "SYN", 1, "XRDT")=""
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VAR(10,"SYN",2,"DSC")="5C5403N260.316824"  
VAR(10,"SYN",2,"TRM")="ACACIA [VANDF]"  
VAR(10,"SYN",2,"XADT")=""  
VAR(10,"SYN",2,"XRDT")=""  
VAR(10,"SYN",3,"DSC")="5C5403N260.316823"  
VAR(10,"SYN",3,"TRM")="GUM ARABIC [VANDF]"  
VAR(10,"SYN",3,"XADT")=""  
VAR(10,"SYN",3,"XRDT")=""  
VAR(10,"SYN",4,"DSC")="5C5403N260.316822"  
VAR(10,"SYN",4,"TRM")="PLANTS AND PLANT PARTS, GUM, ACACIA OR ARABIC ACACIA  
SENEGAL"  
VAR(10,"SYN",4,"XADT")=""  
VAR(10,"SYN",4,"XRDT")=""  
VAR(10,"SYN",5,"DSC")="5C5403N260.316821"  
VAR(10,"SYN",5,"TRM")="ACACIA SENEGAL GUM [WHO-DD]"  
VAR(10,"SYN",5,"XADT")=""  
VAR(10,"SYN",5,"XRDT")=""  
VAR(10,"SYN",6,"DSC")="5C5403N260.316820"  
VAR(10,"SYN",6,"TRM")="ACACIA SENEGAL RESIN [WHO-DD]"  
VAR(10,"SYN",6,"XADT")=""  
VAR(10,"SYN",6,"XRDT")=""  
VAR(10,"SYN",7,"DSC")="5C5403N260.316819"  
VAR(10,"SYN",7,"TRM")="ACACIA [HSDB]"  
VAR(10,"SYN",7,"XADT")=""  
VAR(10,"SYN",7,"XRDT")=""  
VAR(10,"SYN",8,"DSC")="5C5403N260.316818"  
VAR(10,"SYN",8,"TRM")="ARABIC GUM ALLERGENIC EXTRACT"  
VAR(10,"SYN",8,"XADT")=""  
VAR(10,"SYN",8,"XRDT")=""  
VAR(10,"SYN",9,"DSC")="5C5403N260.316817"  
VAR(10,"SYN",9,"TRM")="ALLERGENIC EXTRACT- GUM, ACACIA OR ARABIC ACACIA  
SENEGAL"  
VAR(10,"SYN",9,"XADT")=""  
VAR(10,"SYN",9,"XRDT")=""  
VAR(10,"SYN",10,"DSC")="5C5403N260.316816"  
VAR(10,"SYN",10,"TRM")="AE-GUM, ACACIA"  
VAR(10,"SYN",10,"XADT")=""  
VAR(10,"SYN",10,"XRDT")=""  
VAR(10,"SYN",11,"DSC")="5C5403N260.316815"  
VAR(10,"SYN",11,"TRM")="AE-GUM, ARABIC"  
VAR(10,"SYN",11,"XADT")=""  
VAR(10,"SYN",11,"XRDT")=""  
VAR(10,"SYN",12,"DSC")="5C5403N260.165026"  
VAR(10,"SYN",12,"TRM")="ACACIA [II]"  
VAR(10,"SYN",12,"XADT")=""  
VAR(10,"SYN",12,"XRDT")=""  
VAR(10,"SYN",13,"DSC")="5C5403N260.165025"  
VAR(10,"SYN",13,"TRM")="ACACIA MUCILAGE [II]"  
VAR(10,"SYN",13,"XADT")=""  
VAR(10,"SYN",13,"XRDT")=""  
VAR(10,"SYN",14,"DSC")="5C5403N260.165024"  
VAR(10,"SYN",14,"TRM")="GUM ARABIC [FCC]"  
VAR(10,"SYN",14,"XADT")=""  
VAR(10,"SYN",14,"XRDT")=""  
VAR(10,"SYN",15,"DSC")="5C5403N260.165023"  
VAR(10,"SYN",15,"TRM")="ACACIA [MI]"  
VAR(10,"SYN",15,"XADT")=""
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VAR(10,"SYN",15,"XRDT")=""
VAR(10,"SYN",16,"DSC")="5C5403N260.165022"
VAR(10,"SYN",16,"TRM")="ACACIA [MART.]"
VAR(10,"SYN",16,"XADT")=""
VAR(10,"SYN",16,"XRDT")=""
VAR(10,"SYN",17,"DSC")="5C5403N260.165021"
VAR(10,"SYN",17,"TRM")="ACACIA SENEGAL GUM [INCI]"
VAR(10,"SYN",17,"XADT")=""
VAR(10,"SYN",17,"XRDT")=""
VAR(10,"SYN",18,"DSC")="5C5403N260.165020"
VAR(10,"SYN",18,"TRM")="ACACIA SENEGAL GUM EXTRACT [INCI]"
VAR(10,"SYN",18,"XADT")=""
VAR(10,"SYN",18,"XRDT")=""
VAR(10,"SYN",19,"DSC")="5C5403N260.165019"
VAR(10,"SYN",19,"TRM")="ACACIA SENEGAL GUM"
VAR(10,"SYN",19,"XADT")=""
VAR(10,"SYN",19,"XRDT")=""
VAR(10,"SYN",20,"DSC")="5C5403N260.87154"
VAR(10,"SYN",20,"TRM")="ARABIC GUM"
VAR(10,"SYN",20,"XADT")=""
VAR(10,"SYN",20,"XRDT")=""
VAR(10,"SYN",21,"DSC")="5C5403N260.87153"
VAR(10,"SYN",21,"TRM")="ACACIA, SPRAY-DRIED [EP]"
VAR(10,"SYN",21,"XADT")=""
VAR(10,"SYN",21,"XRDT")=""
VAR(10,"SYN",22,"DSC")="5C5403N260.87152"
VAR(10,"SYN",22,"TRM")="ACACIA, SPRAY-DRIED"
VAR(10,"SYN",22,"XADT")=""
VAR(10,"SYN",22,"XRDT")=""
VAR(10,"SYN",23,"DSC")="5C5403N260.87151"
VAR(10,"SYN",23,"TRM")="ACACIA GUM [FHFI]"
VAR(10,"SYN",23,"XADT")=""
VAR(10,"SYN",23,"XRDT")=""
VAR(10,"SYN",24,"DSC")="5C5403N260.87150"
VAR(10,"SYN",24,"TRM")="ACACIA ARABICA [HPUS]"
VAR(10,"SYN",24,"XADT")=""
VAR(10,"SYN",24,"XRDT")=""
VAR(10,"SYN",25,"DSC")="5C5403N260.87149"
VAR(10,"SYN",25,"TRM")="ACACIA SENEGAL GUM EXTRACT"
VAR(10,"SYN",25,"XADT")=""
VAR(10,"SYN",25,"XRDT")=""
VAR(10,"SYN",26,"DSC")="5C5403N260.87148"
VAR(10,"SYN",26,"TRM")="ACACIA POWDER"
VAR(10,"SYN",26,"XADT")=""
VAR(10,"SYN",26,"XRDT")=""
VAR(10,"SYN",27,"DSC")="5C5403N260.21204"
VAR(10,"SYN",27,"TRM")="THORNY ACACIA RESIN"
VAR(10,"SYN",27,"XADT")=""
VAR(10,"SYN",27,"XRDT")=""
VAR(10,"SYN",28,"DSC")="5C5403N260.21203"
VAR(10,"SYN",28,"TRM")="SENEGALIA SENEGAL RESIN"
VAR(10,"SYN",28,"XADT")=""
VAR(10,"SYN",28,"XRDT")=""
VAR(10,"SYN",29,"DSC")="5C5403N260.21202"
VAR(10,"SYN",29,"TRM")="SENEGAL GUM"
VAR(10,"SYN",29,"XADT")=""
VAR(10,"SYN",29,"XRDT")=""
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VAR(10,"SYN",30,"DSC")="5C5403N260.21201"  
VAR(10,"SYN",30,"TRM")="RFAUDRAKSHA RESIN"  
VAR(10,"SYN",30,"XADT")=""  
VAR(10,"SYN",30,"XRDT")=""  
VAR(10,"SYN",31,"DSC")="5C5403N260.21200"  
VAR(10,"SYN",31,"TRM")="MIMOSA SENEGAL RESIN"  
VAR(10,"SYN",31,"XADT")=""  
VAR(10,"SYN",31,"XRDT")=""  
VAR(10,"SYN",32,"DSC")="5C5403N260.21199"  
VAR(10,"SYN",32,"TRM")="KHER RESIN"  
VAR(10,"SYN",32,"XADT")=""  
VAR(10,"SYN",32,"XRDT")=""  
VAR(10,"SYN",33,"DSC")="5C5403N260.21198"  
VAR(10,"SYN",33,"TRM")="GUMMI ARABICUM"  
VAR(10,"SYN",33,"XADT")=""  
VAR(10,"SYN",33,"XRDT")=""  
VAR(10,"SYN",34,"DSC")="5C5403N260.21197"  
VAR(10,"SYN",34,"TRM")="GUM SENEGAL"  
VAR(10,"SYN",34,"XADT")=""  
VAR(10,"SYN",34,"XRDT")=""  
VAR(10,"SYN",35,"DSC")="5C5403N260.21196"  
VAR(10,"SYN",35,"TRM")="ACACIAE GUMMI"  
VAR(10,"SYN",35,"XADT")=""  
VAR(10,"SYN",35,"XRDT")=""  
VAR(10,"SYN",36,"DSC")="5C5403N260.21195"  
VAR(10,"SYN",36,"TRM")="ACACIA VOLKII RESIN"  
VAR(10,"SYN",36,"XADT")=""  
VAR(10,"SYN",36,"XRDT")=""  
VAR(10,"SYN",37,"DSC")="5C5403N260.21194"  
VAR(10,"SYN",37,"TRM")="ACACIA SPINOSA RESIN"  
VAR(10,"SYN",37,"XADT")=""  
VAR(10,"SYN",37,"XRDT")=""  
VAR(10,"SYN",38,"DSC")="5C5403N260.21193"  
VAR(10,"SYN",38,"TRM")="ACACIA RUPESTRIS RESIN"  
VAR(10,"SYN",38,"XADT")=""  
VAR(10,"SYN",38,"XRDT")=""  
VAR(10,"SYN",39,"DSC")="5C5403N260.21192"  
VAR(10,"SYN",39,"TRM")="ACACIA OXYOSPRION RESIN"  
VAR(10,"SYN",39,"XADT")=""  
VAR(10,"SYN",39,"XRDT")=""  
VAR(10,"SYN",40,"DSC")="5C5403N260.21191"  
VAR(10,"SYN",40,"TRM")="ACACIA MUCILAGE"  
VAR(10,"SYN",40,"XADT")=""  
VAR(10,"SYN",40,"XRDT")=""  
VAR(10,"SYN",41,"DSC")="5C5403N260.21190"  
VAR(10,"SYN",41,"TRM")="ACACIA CUFODONTII RESIN"  
VAR(10,"SYN",41,"XADT")=""  
VAR(10,"SYN",41,"XRDT")=""  
VAR(10,"SYN",42,"DSC")="5C5403N260.21189"  
VAR(10,"SYN",42,"TRM")="ACACIA CIRCUMMARGINATA RESIN"  
VAR(10,"SYN",42,"XADT")=""  
VAR(10,"SYN",42,"XRDT")=""  
VAR(10,"SYN",43,"DSC")="5C5403N260.21188"  
VAR(10,"SYN",43,"TRM")="ACACIA ARABICA"  
VAR(10,"SYN",43,"XADT")=""  
VAR(10,"SYN",43,"XRDT")=""  
VAR(10,"SYN",44,"DSC")="5C5403N260.8759"
```

```

VAR(10,"SYN",44,"TRM")="GUM ARABIC"
VAR(10,"SYN",44,"XADT")=""
VAR(10,"SYN",44,"XRDT")=""
VAR(10,"SYN",45,"DSC")="5C5403N260.8758"
VAR(10,"SYN",45,"TRM")="GUM ACACIA"
VAR(10,"SYN",45,"XADT")=""
VAR(10,"SYN",45,"XRDT")=""
VAR(10,"SYN",46,"DSC")="5C5403N260.8757"
VAR(10,"SYN",46,"TRM")="ACACIA VEREK RESIN"
VAR(10,"SYN",46,"XADT")=""
VAR(10,"SYN",46,"XRDT")=""
VAR(10,"SYN",47,"DSC")="5C5403N260.8756"
VAR(10,"SYN",47,"TRM")="ACACIA SENEGAL RESIN"
VAR(10,"SYN",47,"XADT")=""
VAR(10,"SYN",47,"XRDT")=""
VAR(10,"SYN",48,"DSC")="5C5403N260.8755"
VAR(10,"SYN",48,"TRM")="ACACIA GUM"
VAR(10,"SYN",48,"XADT")=""
VAR(10,"SYN",48,"XRDT")=""
VAR(10,"XADT")=""
VAR(10,"XRDT")=""
>

```

Figure A-11: UNII codeset lookup

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^
>ZW @OUT
VAR(1,"ABN")=0
VAR(1,"ASM",1,"CON")=21522001
VAR(1,"ASM",1,"DTS")=21522
VAR(1,"CMN")=0
VAR(1,"CON")="ABDOMINAL PAIN"
VAR(1,"DTS")=692
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")="T122"
VAR(1,"FSN","TRM")="ABDOMINAL PAIN"
VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"HEAL")=""
VAR(1,"LAT")=0
VAR(1,"PAS")=0
VAR(1,"PRB","DSC")="T122"
VAR(1,"PRB","TRM")="ABDOMINAL PAIN"
VAR(1,"STS")=""
VAR(1,"SYN",1,"DSC")="T578"

```

```
VAR (1, "SYN", 1, "TRM")="GI PAIN"
VAR (1, "SYN", 1, "XADT")=""
VAR (1, "SYN", 1, "XRDT")=""
VAR (1, "SYN", 2, "DSC")="T577"
VAR (1, "SYN", 2, "TRM")="GASTROINTESTINAL PAIN"
VAR (1, "SYN", 2, "XADT")=""
VAR (1, "SYN", 2, "XRDT")=""
VAR (1, "XADT")=""
VAR (1, "XRDT")=""
VAR (2, "ABN")=0
VAR (2, "ASM", 1, "CON")=51197009
VAR (2, "ASM", 1, "DTS")=51197
VAR (2, "CMN")=0
VAR (2, "CON")="ABDOMINAL CRAMPS"
VAR (2, "DTS")=572
VAR (2, "EPI")=0
VAR (2, "EQM", "CON")=""
VAR (2, "EQM", "DTS")=""
VAR (2, "EQM", "LAT")=""
VAR (2, "EQM", "XADT")=""
VAR (2, "EQM", "XRDT")=""
VAR (2, "FSN", "DSC")="T2"
VAR (2, "FSN", "TRM")="ABDOMINAL CRAMPS"
VAR (2, "FSN", "XADT")=""
VAR (2, "FSN", "XRDT")=""
VAR (2, "HEAL")=""
VAR (2, "LAT")=0
VAR (2, "PAS")=0
VAR (2, "PRB", "DSC")="T2"
VAR (2, "PRB", "TRM")="ABDOMINAL CRAMPS"
VAR (2, "STS")=""
VAR (2, "XADT")=""
VAR (2, "XRDT")=""
VAR (3, "ABN")=0
VAR (3, "ASM", 1, "CON")=116289008
VAR (3, "ASM", 1, "DTS")=116289
VAR (3, "CMN")=0
VAR (3, "CON")="ABDOMINAL BLOATING"
VAR (3, "DTS")=603
VAR (3, "EPI")=0
VAR (3, "EQM", "CON")=""
VAR (3, "EQM", "DTS")=""
VAR (3, "EQM", "LAT")=""
VAR (3, "EQM", "XADT")=""
VAR (3, "EQM", "XRDT")=""
VAR (3, "FSN", "DSC")="T33"
VAR (3, "FSN", "TRM")="ABDOMINAL BLOATING"
VAR (3, "FSN", "XADT")=""
VAR (3, "FSN", "XRDT")=""
VAR (3, "HEAL")=""
VAR (3, "LAT")=0
VAR (3, "PAS")=0
VAR (3, "PRB", "DSC")="T33"
VAR (3, "PRB", "TRM")="ABDOMINAL BLOATING"
VAR (3, "STS")=""
VAR (3, "XADT")=""
VAR (3, "XRDT")=""
```

```

VAR (4, "ABN")=0
VAR (4, "ASM", 1, "CON")=43364001
VAR (4, "ASM", 1, "DTS")=43364
VAR (4, "CMN")=0
VAR (4, "CON")="ABDOMINAL DISCOMFORT"
VAR (4, "DTS")=960
VAR (4, "EPI")=0
VAR (4, "EQM", "CON")=""
VAR (4, "EQM", "DTS")=""
VAR (4, "EQM", "LAT")=""
VAR (4, "EQM", "XADT")=""
VAR (4, "EQM", "XRDT")=""
VAR (4, "FSN", "DSC")="T390"
VAR (4, "FSN", "TRM")="ABDOMINAL DISCOMFORT"
VAR (4, "FSN", "XADT")=""
VAR (4, "FSN", "XRDT")=""
VAR (4, "HEAL")=""
VAR (4, "LAT")=0
VAR (4, "PAS")=0
VAR (4, "PRB", "DSC")="T390"
VAR (4, "PRB", "TRM")="ABDOMINAL DISCOMFORT"
VAR (4, "STS")=""
VAR (4, "XADT")=""
VAR (4, "XRDT")=""

>

```

Figure A-12: GMRA Signs Symptoms

The following example shows 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^
>ZW @OUT
VAR (1, "ABN")=0
VAR (1, "AUN", 1, "CON")="9V4Z7PZ92D"
VAR (1, "AUN", 1, "DTS")=43
VAR (1, "CMN")=0
VAR (1, "CON")="ABALONE"
VAR (1, "DTS")=1
VAR (1, "EPI")=0
VAR (1, "EQM", "CON")=""
VAR (1, "EQM", "DTS")=""
VAR (1, "EQM", "LAT")=""
VAR (1, "EQM", "XADT")=""
VAR (1, "EQM", "XRDT")=""
VAR (1, "FSN", "DSC")="T1"
VAR (1, "FSN", "TRM")="ABALONE"
VAR (1, "FSN", "XADT")=""
VAR (1, "FSN", "XRDT")=""
VAR (1, "HEAL")=""
VAR (1, "LAT")=0
VAR (1, "PAS")=0
VAR (1, "PRB", "DSC")="T1"

```

```

VAR (1, "PRB", "TRM")="ABALONE"
VAR (1, "STS")=""
VAR (1, "XADT")=""
VAR (1, "XRDT")=""

>

```

Figure A-13: GMRA Allergies with Maps

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

```

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

>W $$SEARCH^BSTSAPI (OUT, IN)
2^
>ZW @OUT
VAR (1, "ABN")=0
VAR (1, "CMN")=0
VAR (1, "CON")="1,1,1 TRICHLOROETHANE"
VAR (1, "DTS")=4779
VAR (1, "EPI")=0
VAR (1, "EQM", "CON")=""
VAR (1, "EQM", "DTS")=""
VAR (1, "EQM", "LAT")=""
VAR (1, "EQM", "XADT")=""
VAR (1, "EQM", "XRDT")=""
VAR (1, "FSN", "DSC")="T4775"
VAR (1, "FSN", "TRM")="1,1,1 TRICHLOROETHANE"
VAR (1, "FSN", "XADT")=""
VAR (1, "FSN", "XRDT")=""
VAR (1, "HEAL")=""
VAR (1, "LAT")=0
VAR (1, "PAS")=0
VAR (1, "PRB", "DSC")="T4775"
VAR (1, "PRB", "TRM")="1,1,1 TRICHLOROETHANE"
VAR (1, "STS")=""
VAR (1, "XADT")=""
VAR (1, "XRDT")=""

>

```

Figure A-14: IHS VANDF namespace search

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

```

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

>W $$SEARCH^BSTSAPI (OUT, IN)
2^
>ZW @OUT
VAR (1, "ABN")=0
VAR (1, "ASM", 1, "CON")=26643006
VAR (1, "ASM", 1, "DTS")=26643
VAR (1, "CMN")=0

```

```

VAR (1, "CON")="ORAL"
VAR (1, "DTS")=23
VAR (1, "EPI")=0
VAR (1, "EQM", "CON")=""
VAR (1, "EQM", "DTS")=""
VAR (1, "EQM", "LAT")=""
VAR (1, "EQM", "XADT")=""
VAR (1, "EQM", "XRDT")=""
VAR (1, "FSN", "DSC")="T23"
VAR (1, "FSN", "TRM")="ORAL"
VAR (1, "FSN", "XADT")=""
VAR (1, "FSN", "XRDT")=""
VAR (1, "HEAL")=""
VAR (1, "LAT")=0
VAR (1, "PAS")=0
VAR (1, "PRB", "DSC")="T23"
VAR (1, "PRB", "TRM")="ORAL"
VAR (1, "STS")=""
VAR (1, "XADT")=""
VAR (1, "XRDT")=""
>

```

Figure A-15: IHS Med Route namespace search

A.2 \$\$CODESETS^BSTSAPI

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

```

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

>W $$CODESETS^BSTSAPI(OUT)
2^
>ZW @OUT
^TMP("BSTSAPI",166128,1)="32768^32768^IHS"
^TMP("BSTSAPI",166128,2)="32771^32771^IHS VANDF"
^TMP("BSTSAPI",166128,3)="32772^32772^GMRA Signs Symptoms"
^TMP("BSTSAPI",166128,4)="32773^32773^GMRA Allergies with Maps"
^TMP("BSTSAPI",166128,5)="32774^32774^IHS Med Route"
^TMP("BSTSAPI",166128,6)="32775^32775^CPT Meds with Maps"
^TMP("BSTSAPI",166128,7)="32777^32777^SNOMED CT to ICD-10-CM Auto-Codeables"
^TMP("BSTSAPI",166128,8)="32778^32778^SNOMED CT to ICD-9-CM Auto-Codeables"
^TMP("BSTSAPI",166128,9)="32779^32779^SNOMED CT to ICD-10-CM Auto-Codeables Conditional Sequences"
^TMP("BSTSAPI",166128,10)="32780^32780^IHS Problem List Equivalence Rules"
^TMP("BSTSAPI",166128,11)="10^ICD-9-CM-C1^ICD-9-CM"
^TMP("BSTSAPI",166128,12)="5140^ICD10CM^ICD-10-CM"
^TMP("BSTSAPI",166128,13)="5102^LOINC-3^LOINC"
^TMP("BSTSAPI",166128,14)="32769^N32769^IHS RxNorm Attribution"
^TMP("BSTSAPI",166128,15)="1552^RXNORMR^RxNorm R"
^TMP("BSTSAPI",166128,16)="35290^SCT-US-MAP_ICD10CM^SNOMED CT US Ext to ICD-10-CM"
^TMP("BSTSAPI",166128,17)="35291^SCT-US-MAP_ICD9CM^SNOMED CT US Ext to ICD-9 CM"

```

```

^TMP("BSTSAPI",166128,18)="17161^SCT-US-MAP_ICD9CM^SNOMED CT US Edition to
ICD-9-CM"
^TMP("BSTSAPI",166128,19)="36^SCTUSEXT^SNOMED CT US Edition"
^TMP("BSTSAPI",166128,20)="5180^UNII^FDA UNII"
>

```

Figure A-16: Standard call results

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",166128,1)="20120301^2012.03.11AB^3/1/2012^"
^TMP("BSTSAPI",166128,2)="20120901^2012.09.12AA^9/1/2012^"
^TMP("BSTSAPI",166128,3)="20130301^2013.03.12AB^3/1/2013^"
^TMP("BSTSAPI",166128,4)="20130901^2013.09.13AA^9/1/2013^"
^TMP("BSTSAPI",166128,5)="20140301^2014.03.13AB^3/1/2014^"
^TMP("BSTSAPI",166128,6)="20140901^2014.09.14AA^9/1/2014^"
^TMP("BSTSAPI",166128,7)="20150301^2015.03.14AB^3/1/2015^"
^TMP("BSTSAPI",166128,8)="20150901^2015.09.15AA^9/1/2015^"
^TMP("BSTSAPI",166128,9)="20160301^2016.03.15AB^3/1/2016^"
>

```

Figure A-17: SNOMED codeset versions

A.4 \$\$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="20160301^2016.03.15AB^3/1/2016^"
>

```

Figure A-18: SNOMED codeset current version

A.5 \$\$MPADVICE^BSTSAPI

The following example displays ICD-10 mapping information available for a particular concept ID (using 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 AN 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 INFORMATION 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")=""

>

```

Figure A-19: ICD-10 mapping information

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",166128,1)="EHR EDU Admin"
^TMP("BSTSAPI",166128,2)="EHR EDU Behavioral Social"
^TMP("BSTSAPI",166128,3)="EHR EDU CQM"
^TMP("BSTSAPI",166128,4)="EHR EDU Cardiovascular"
^TMP("BSTSAPI",166128,5)="EHR EDU Child"
^TMP("BSTSAPI",166128,6)="EHR EDU Childbirth"
^TMP("BSTSAPI",166128,7)="EHR EDU Diabetes"
^TMP("BSTSAPI",166128,8)="EHR EDU Elder"
^TMP("BSTSAPI",166128,9)="EHR EDU End of Life"
^TMP("BSTSAPI",166128,10)="EHR EDU GENERAL"
^TMP("BSTSAPI",166128,11)="EHR EDU HPDP"
^TMP("BSTSAPI",166128,12)="EHR EDU Infant"
^TMP("BSTSAPI",166128,13)="EHR EDU Medications"
^TMP("BSTSAPI",166128,14)="EHR EDU Mens Health"
^TMP("BSTSAPI",166128,15)="EHR EDU Nursing Inpt"
^TMP("BSTSAPI",166128,16)="EHR EDU Nursing Outpt"
^TMP("BSTSAPI",166128,17)="EHR EDU Pain"
^TMP("BSTSAPI",166128,18)="EHR EDU Physical Therapy"
^TMP("BSTSAPI",166128,19)="EHR EDU Postnatal"
^TMP("BSTSAPI",166128,20)="EHR EDU Pregnancy Early"

```

```
^TMP("BSTSAPI",166128,21)="EHR EDU Pregnancy Late"
^TMP("BSTSAPI",166128,22)="EHR EDU Public Health Nursing"
^TMP("BSTSAPI",166128,23)="EHR EDU Pulmonary"
^TMP("BSTSAPI",166128,24)="EHR EDU SRCH GALAXY"
^TMP("BSTSAPI",166128,25)="EHR EDU Social"
^TMP("BSTSAPI",166128,26)="EHR EDU Substance Abuse"
^TMP("BSTSAPI",166128,27)="EHR EDU Womens Health"
^TMP("BSTSAPI",166128,28)="EHR HARD CODED SNOMED TERMS"
^TMP("BSTSAPI",166128,29)="EHR IPL ASTHMA DXS"
^TMP("BSTSAPI",166128,30)="EHR IPL ASTHMA TX REGIMEN"
^TMP("BSTSAPI",166128,31)="EHR IPL CLINICAL COURSE"
^TMP("BSTSAPI",166128,32)="EHR IPL DEFAULT STATUS ADMIN"
^TMP("BSTSAPI",166128,33)="EHR IPL DEFAULT STATUS CHRONIC"
^TMP("BSTSAPI",166128,34)="EHR IPL DEFAULT STATUS PHX"
^TMP("BSTSAPI",166128,35)="EHR IPL DEFAULT STATUS SOCIAL"
^TMP("BSTSAPI",166128,36)="EHR IPL EYE FILTER"
^TMP("BSTSAPI",166128,37)="EHR IPL FRACT HEALING CHOICES"
^TMP("BSTSAPI",166128,38)="EHR IPL FX PROMPT HEALING RD"
^TMP("BSTSAPI",166128,39)="EHR IPL FX PROMPT HEALING RDN"
^TMP("BSTSAPI",166128,40)="EHR IPL FX PROMPT HEALING RDNM"
^TMP("BSTSAPI",166128,41)="EHR IPL LATERALITY CHOICES"
^TMP("BSTSAPI",166128,42)="EHR IPL PICK ASTHMA"
^TMP("BSTSAPI",166128,43)="EHR IPL POV EPISODICITIES"
^TMP("BSTSAPI",166128,44)="EHR IPL PROBLEM QUALIFIERS"
^TMP("BSTSAPI",166128,45)="EHR IPL PROMPT ABN FINDINGS"
^TMP("BSTSAPI",166128,46)="EHR IPL PROMPT FOR LATERALITY"
^TMP("BSTSAPI",166128,47)="EHR IPL SEVERITY"
^TMP("BSTSAPI",166128,48)="EHR REASONS NOT DONE"
^TMP("BSTSAPI",166128,49)="EHR REASONS NOT DONE MEDS"
^TMP("BSTSAPI",166128,50)="EHR REASONS NOT DONE OTHERS"
^TMP("BSTSAPI",166128,51)="EHR REFERRAL TYPE"
^TMP("BSTSAPI",166128,52)="EHR SUICIDE RELATED"
^TMP("BSTSAPI",166128,53)="EHR V AMI CHEST PAIN"
^TMP("BSTSAPI",166128,54)="EHR V AMI EKG FINDINGS"
^TMP("BSTSAPI",166128,55)="EHR V STROKE NEURO SYMPTOMS"
^TMP("BSTSAPI",166128,56)="IHS PROBLEM ALL SNOMED"
^TMP("BSTSAPI",166128,57)="IHS PROBLEM SUPERSET"
^TMP("BSTSAPI",166128,58)="IHS Problem List"
^TMP("BSTSAPI",166128,59)="Nonhuman RefSet 20130901"
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^TMP("BSTSAPI",166128,64)="PICK BH-Social Family Issues"
^TMP("BSTSAPI",166128,65)="PICK Behavioral Health"
^TMP("BSTSAPI",166128,66)="PICK Behavioral Health Long"
^TMP("BSTSAPI",166128,67)="PICK Cardiology"
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^TMP("BSTSAPI",166128,70)="PICK Dental"
^TMP("BSTSAPI",166128,71)="PICK Dermatology"
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^TMP("BSTSAPI",166128,77)="PICK ENT - Fractures"
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^TMP("BSTSAPI",166128,87)="PICK Family Practice Long"
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^TMP("BSTSAPI",166128,90)="PICK Heme/Onc"
^TMP("BSTSAPI",166128,91)="PICK Heme/Onc Long"
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^TMP("BSTSAPI",166128,93)="PICK Laboratory"
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^TMP("BSTSAPI",166128,99)="PICK MH-Neurodevelopmental"
^TMP("BSTSAPI",166128,100)="PICK MH-Other Disorders"
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^TMP("BSTSAPI",166128,103)="PICK Medicine"
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^TMP("BSTSAPI",166128,128)="PICK Prenatal - Problem Preg"
^TMP("BSTSAPI",166128,129)="PICK Prenatal - Risk"
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^TMP("BSTSAPI",166128,131)="PICK Problem List - Social Env"
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^TMP("BSTSAPI",166128,133)="PICK Rheumatology"
^TMP("BSTSAPI",166128,134)="PICK Social Services"
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^TMP("BSTSAPI",166128,140)="PICK WH - Pap Results"
^TMP("BSTSAPI",166128,141)="PICK WH - Pelvic Pain"
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^TMP("BSTSAPI",166128,143)="PXRМ ASTHMA"
^TMP("BSTSAPI",166128,144)="PXRМ ASTHMA CLASSIFIED"
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^TMP("BSTSAPI",166128,146)="PXRМ ASTHMA PERSISTENT"
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^TMP("BSTSAPI",166128,148)="PXRМ BGP ADR ACEI"
^TMP("BSTSAPI",166128,149)="PXRМ BGP ADR ARB"
^TMP("BSTSAPI",166128,150)="PXRМ BGP ADR ASA"
^TMP("BSTSAPI",166128,151)="PXRМ BGP ADR BETA BLOCKER"
^TMP("BSTSAPI",166128,152)="PXRМ BGP ADR STATIN"
^TMP("BSTSAPI",166128,153)="PXRМ BGP AMI"
^TMP("BSTSAPI",166128,154)="PXRМ BGP BILAT BLINDNESS"
^TMP("BSTSAPI",166128,155)="PXRМ BGP BILAT MASTECTOMY"
^TMP("BSTSAPI",166128,156)="PXRМ BGP BLINDNESS UNSPECIFIED"
^TMP("BSTSAPI",166128,157)="PXRМ BGP CIRRHOSIS"
^TMP("BSTSAPI",166128,158)="PXRМ BGP COPD"
^TMP("BSTSAPI",166128,159)="PXRМ BGP CURRENT TOBACCO"
^TMP("BSTSAPI",166128,160)="PXRМ BGP EMPHYSEMA"
^TMP("BSTSAPI",166128,161)="PXRМ BGP ETOH RELATED DX"
^TMP("BSTSAPI",166128,162)="PXRМ BGP HEMORRHAGE"
^TMP("BSTSAPI",166128,163)="PXRМ BGP HEPATITIS A"
^TMP("BSTSAPI",166128,164)="PXRМ BGP HEPATITIS B"
^TMP("BSTSAPI",166128,165)="PXRМ BGP HYPOTENSION"
^TMP("BSTSAPI",166128,166)="PXRМ BGP HYSTERECTOMY DX"
^TMP("BSTSAPI",166128,167)="PXRМ BGP IPV DV DX"
^TMP("BSTSAPI",166128,168)="PXRМ BGP ISCHEMIC STROKE TIA"
^TMP("BSTSAPI",166128,169)="PXRМ BGP IVD"
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^TMP("BSTSAPI",166128,171)="PXRМ BGP LEFT MASTECTOMY"
^TMP("BSTSAPI",166128,172)="PXRМ BGP MEASLES"
^TMP("BSTSAPI",166128,173)="PXRМ BGP MOD SEV AORTIC STEN"
^TMP("BSTSAPI",166128,174)="PXRМ BGP MYOPATHY MYALGIA"
^TMP("BSTSAPI",166128,175)="PXRМ BGP OVER 1 DEG HEART BLK"
^TMP("BSTSAPI",166128,176)="PXRМ BGP POLIO"
^TMP("BSTSAPI",166128,177)="PXRМ BGP QUIT TOBACCO"
^TMP("BSTSAPI",166128,178)="PXRМ BGP RIGHT EYE BLIND"
^TMP("BSTSAPI",166128,179)="PXRМ BGP RIGHT MASTECTOMY"
^TMP("BSTSAPI",166128,180)="PXRМ BGP RUBELLA"
^TMP("BSTSAPI",166128,181)="PXRМ BGP SINUS BRADYCARDIA"
^TMP("BSTSAPI",166128,182)="PXRМ BGP TOBACCO SCREENED"
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^TMP("BSTSAPI",166128,185)="PXRМ BGP VARICELLA"
^TMP("BSTSAPI",166128,186)="PXRМ BQI ALCOHOL SCREENING"
^TMP("BSTSAPI",166128,187)="PXRМ BQI CHLAMYDIA SCREENING"
^TMP("BSTSAPI",166128,188)="PXRМ BQI DEPRESSION SCREENING"
^TMP("BSTSAPI",166128,189)="PXRМ BQI INFLUENZA IMM"
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^TMP("BSTSAPI",166128,195)="PXRМ CKD STAGE 3 AND GREATER"  
^TMP("BSTSAPI",166128,196)="PXRМ COLORECTAL CANCER"  
^TMP("BSTSAPI",166128,197)="PXRМ DIABETES"  
^TMP("BSTSAPI",166128,198)="PXRМ DIABETES TYPE I"  
^TMP("BSTSAPI",166128,199)="PXRМ DIABETIC NEPHROPATHY"  
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^TMP("BSTSAPI",166128,201)="PXRМ END OF LIFE"  
^TMP("BSTSAPI",166128,202)="PXRМ END STAGE RENAL DISEASE"  
^TMP("BSTSAPI",166128,203)="PXRМ ESSENTIAL HYPERTENSION"  
^TMP("BSTSAPI",166128,204)="PXRМ HEPATITIS C"  
^TMP("BSTSAPI",166128,205)="PXRМ HIV"  
^TMP("BSTSAPI",166128,206)="PXRМ HYPERTENSION"  
^TMP("BSTSAPI",166128,207)="PXRМ ISCHEMIC HEART DISEASE"  
^TMP("BSTSAPI",166128,208)="PXRМ OPEN ANGLE GLAUCOMA"  
^TMP("BSTSAPI",166128,209)="PXRМ OSTEOPOROSIS-OSTEOPENIA"  
^TMP("BSTSAPI",166128,210)="PXRМ OVERWT OBESE 65 AND OVER"  
^TMP("BSTSAPI",166128,211)="PXRМ OVERWT OBESE UNDER 65"  
^TMP("BSTSAPI",166128,212)="PXRМ PALLIATIVE CARE"  
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^TMP("BSTSAPI",166128,219)="SRCH COG FUNCT STATUS"  
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^TMP("BSTSAPI",166128,248)="SRCH Nursing"
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^TMP("BSTSAPI",166128,263)="SRCH Problem List - Nursing"
^TMP("BSTSAPI",166128,264)="SRCH Problem List - Social Env"
^TMP("BSTSAPI",166128,265)="SRCH Respiratory"
^TMP("BSTSAPI",166128,266)="SRCH Rheumatology"
^TMP("BSTSAPI",166128,267)="SRCH Social Services"
^TMP("BSTSAPI",166128,268)="SRCH Suicide"
^TMP("BSTSAPI",166128,269)="SRCH Trauma"
^TMP("BSTSAPI",166128,270)="SRCH Urology/Nephrology"
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^TMP("BSTSAPI",166128,272)="SRCH WH - General"
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^TMP("BSTSAPI",166128,275)="SRCH Womens Health"
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^TMP("BSTSAPI",166128,279)="TREG Case Management"
^TMP("BSTSAPI",166128,280)="TREG Dialysis"
^TMP("BSTSAPI",166128,281)="TREG Follow Up"
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^TMP("BSTSAPI",166128,283)="TREG Nursing"
^TMP("BSTSAPI",166128,284)="TREG Substance Abuse"
^TMP("BSTSAPI",166128,285)="TREG Wound Care"

>

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Figure A-20: SNOMED CT available subsets

The following example displays a list of subsets available for the SNOMED CT US Extensions codeset (using a remote DTS lookup):

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^TMP("BSTSAPI",166128,3)="EHR EDU Cardiovascular"
^TMP("BSTSAPI",166128,4)="EHR EDU Child"
^TMP("BSTSAPI",166128,5)="EHR EDU Childbirth"
^TMP("BSTSAPI",166128,6)="EHR EDU CQM"
^TMP("BSTSAPI",166128,7)="EHR EDU Diabetes"

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^TMP("BSTSAPI",166128,8)="EHR EDU Elder"
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^TMP("BSTSAPI",166128,11)="EHR EDU HPDP"
^TMP("BSTSAPI",166128,12)="EHR EDU Infant"
^TMP("BSTSAPI",166128,13)="EHR EDU Medications"
^TMP("BSTSAPI",166128,14)="EHR EDU Mens Health"
^TMP("BSTSAPI",166128,15)="EHR EDU Nursing Inpt"
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^TMP("BSTSAPI",166128,17)="EHR EDU Pain"
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^TMP("BSTSAPI",166128,21)="EHR EDU Pregnancy Late"
^TMP("BSTSAPI",166128,22)="EHR EDU Public Health Nursing"
^TMP("BSTSAPI",166128,23)="EHR EDU Pulmonary"
^TMP("BSTSAPI",166128,24)="EHR EDU Social"
^TMP("BSTSAPI",166128,25)="EHR EDU SRCH GALAXY"
^TMP("BSTSAPI",166128,26)="EHR EDU Substance Abuse"
^TMP("BSTSAPI",166128,27)="EHR EDU Womens Health"
^TMP("BSTSAPI",166128,28)="EHR HARD CODED SNOMED TERMS"
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^TMP("BSTSAPI",166128,30)="EHR IPL ASTHMA TX REGIMEN"
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^TMP("BSTSAPI",166128,34)="EHR IPL DEFAULT STATUS PHX"
^TMP("BSTSAPI",166128,35)="EHR IPL DEFAULT STATUS SOCIAL"
^TMP("BSTSAPI",166128,36)="EHR IPL EYE FILTER"
^TMP("BSTSAPI",166128,37)="EHR IPL FRACT HEALING CHOICES"
^TMP("BSTSAPI",166128,38)="EHR IPL FX PROMPT HEALING RD"
^TMP("BSTSAPI",166128,39)="EHR IPL FX PROMPT HEALING RDN"
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^TMP("BSTSAPI",166128,43)="EHR IPL POV EPISODICITIES"
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^TMP("BSTSAPI",166128,47)="EHR IPL SEVERITY"
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^TMP("BSTSAPI",166128,54)="EHR V AMI EKG FINDINGS"
^TMP("BSTSAPI",166128,55)="EHR V STROKE NEURO SYMPTOMS"
^TMP("BSTSAPI",166128,56)="IHS PROBLEM ALL SNOMED"
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^TMP("BSTSAPI",166128,62)="PICK Behavioral Health Long"
^TMP("BSTSAPI",166128,63)="PICK BH-Social Family Issues"
^TMP("BSTSAPI",166128,64)="PICK BH-SUD"

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^TMP("BSTSAPI",166128,69)="PICK Dermatology"
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^TMP("BSTSAPI",166128,71)="PICK Diabetes Education"
^TMP("BSTSAPI",166128,72)="PICK Emergency Department"
^TMP("BSTSAPI",166128,73)="PICK ENT"
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^TMP("BSTSAPI",166128,76)="PICK ENT - Fractures"
^TMP("BSTSAPI",166128,77)="PICK ENT - Mouth and Throat"
^TMP("BSTSAPI",166128,78)="PICK ENT - Neoplasm"
^TMP("BSTSAPI",166128,79)="PICK ENT - Nose and Sinus"
^TMP("BSTSAPI",166128,80)="PICK ENT - Sleep"
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^TMP("BSTSAPI",166128,102)="PICK MH-Other Disorders"
^TMP("BSTSAPI",166128,103)="PICK MH-Schiz and Psychotic"
^TMP("BSTSAPI",166128,104)="PICK MH-Trauma And Stress"
^TMP("BSTSAPI",166128,105)="PICK Musculoskeletal-Fx"
^TMP("BSTSAPI",166128,106)="PICK Musculoskeletal-Non Fx"
^TMP("BSTSAPI",166128,107)="PICK Neurology"
^TMP("BSTSAPI",166128,108)="PICK Neurology Long"
^TMP("BSTSAPI",166128,109)="PICK Nursing"
^TMP("BSTSAPI",166128,110)="PICK Nursing - Ambulatory"
^TMP("BSTSAPI",166128,111)="PICK Nursing - ED/UC"
^TMP("BSTSAPI",166128,112)="PICK Nursing - Inpatient"
^TMP("BSTSAPI",166128,113)="PICK Nursing - Public Health"
^TMP("BSTSAPI",166128,114)="PICK Nutrition"
^TMP("BSTSAPI",166128,115)="PICK Pain Management"
^TMP("BSTSAPI",166128,116)="PICK Pediatrics"
^TMP("BSTSAPI",166128,117)="PICK Pharmacy"
^TMP("BSTSAPI",166128,118)="PICK Physical Medicine"
^TMP("BSTSAPI",166128,119)="PICK Podiatry"
^TMP("BSTSAPI",166128,120)="PICK Podiatry-Fx"
^TMP("BSTSAPI",166128,121)="PICK Podiatry-Non Fx"

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^TMP("BSTSAPI",166128,122)="PICK Postpartum"
^TMP("BSTSAPI",166128,123)="PICK Prenatal"
^TMP("BSTSAPI",166128,124)="PICK Prenatal - Care"
^TMP("BSTSAPI",166128,125)="PICK Prenatal - Problem Fetus"
^TMP("BSTSAPI",166128,126)="PICK Prenatal - Problem Preg"
^TMP("BSTSAPI",166128,127)="PICK Prenatal - Risk"
^TMP("BSTSAPI",166128,128)="PICK Preventive Care"
^TMP("BSTSAPI",166128,129)="PICK Problem List - Social Env"
^TMP("BSTSAPI",166128,130)="PICK Respiratory"
^TMP("BSTSAPI",166128,131)="PICK Rheumatology"
^TMP("BSTSAPI",166128,132)="PICK Social Services"
^TMP("BSTSAPI",166128,133)="PICK Social Services Long"
^TMP("BSTSAPI",166128,134)="PICK Urology/Nephrology"
^TMP("BSTSAPI",166128,135)="PICK Urology/Nephrology Long"
^TMP("BSTSAPI",166128,136)="PICK WH - Family Planning"
^TMP("BSTSAPI",166128,137)="PICK WH - General"
^TMP("BSTSAPI",166128,138)="PICK WH - Pap Results"
^TMP("BSTSAPI",166128,139)="PICK WH - Pelvic Pain"
^TMP("BSTSAPI",166128,140)="PXRМ AGE RELATED MACULAR DEGEN"
^TMP("BSTSAPI",166128,141)="PXRМ ASTHMA"
^TMP("BSTSAPI",166128,142)="PXRМ ASTHMA CLASSIFIED"
^TMP("BSTSAPI",166128,143)="PXRМ ASTHMA INTERMITTENT"
^TMP("BSTSAPI",166128,144)="PXRМ ASTHMA PERSISTENT"
^TMP("BSTSAPI",166128,145)="PXRМ BGP ACUTE ETOH HEPATITIS"
^TMP("BSTSAPI",166128,146)="PXRМ BGP ADR ACEI"
^TMP("BSTSAPI",166128,147)="PXRМ BGP ADR ARB"
^TMP("BSTSAPI",166128,148)="PXRМ BGP ADR ASA"
^TMP("BSTSAPI",166128,149)="PXRМ BGP ADR BETA BLOCKER"
^TMP("BSTSAPI",166128,150)="PXRМ BGP ADR STATIN"
^TMP("BSTSAPI",166128,151)="PXRМ BGP AMI"
^TMP("BSTSAPI",166128,152)="PXRМ BGP BILAT BLINDNESS"
^TMP("BSTSAPI",166128,153)="PXRМ BGP BILAT MASTECTOMY"
^TMP("BSTSAPI",166128,154)="PXRМ BGP BLINDNESS UNSPECIFIED"
^TMP("BSTSAPI",166128,155)="PXRМ BGP CIRRHOSIS"
^TMP("BSTSAPI",166128,156)="PXRМ BGP COPD"
^TMP("BSTSAPI",166128,157)="PXRМ BGP CURRENT TOBACCO"
^TMP("BSTSAPI",166128,158)="PXRМ BGP EMPHYSEMA"
^TMP("BSTSAPI",166128,159)="PXRМ BGP ETOH RELATED DX"
^TMP("BSTSAPI",166128,160)="PXRМ BGP HEMORRHAGE"
^TMP("BSTSAPI",166128,161)="PXRМ BGP HEPATITIS A"
^TMP("BSTSAPI",166128,162)="PXRМ BGP HEPATITIS B"
^TMP("BSTSAPI",166128,163)="PXRМ BGP HYPOTENSION"
^TMP("BSTSAPI",166128,164)="PXRМ BGP HYSTERECTOMY DX"
^TMP("BSTSAPI",166128,165)="PXRМ BGP IPV DV DX"
^TMP("BSTSAPI",166128,166)="PXRМ BGP ISCHEMIC STROKE TIA"
^TMP("BSTSAPI",166128,167)="PXRМ BGP IVD"
^TMP("BSTSAPI",166128,168)="PXRМ BGP LEFT EYE BLIND"
^TMP("BSTSAPI",166128,169)="PXRМ BGP LEFT MASTECTOMY"
^TMP("BSTSAPI",166128,170)="PXRМ BGP MEASLES"
^TMP("BSTSAPI",166128,171)="PXRМ BGP MOD SEV AORTIC STEN"
^TMP("BSTSAPI",166128,172)="PXRМ BGP MYOPATHY MYALGIA"
^TMP("BSTSAPI",166128,173)="PXRМ BGP OVER 1 DEG HEART BLK"
^TMP("BSTSAPI",166128,174)="PXRМ BGP POLIO"
^TMP("BSTSAPI",166128,175)="PXRМ BGP QUIT TOBACCO"
^TMP("BSTSAPI",166128,176)="PXRМ BGP RIGHT EYE BLIND"
^TMP("BSTSAPI",166128,177)="PXRМ BGP RIGHT MASTECTOMY"
^TMP("BSTSAPI",166128,178)="PXRМ BGP RUBELLA"

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^TMP("BSTSAPI",166128,179)="PXRМ BGP SINUS BRADYCARDIA"  
^TMP("BSTSAPI",166128,180)="PXRМ BGP TOBACCO SCREENED"  
^TMP("BSTSAPI",166128,181)="PXRМ BGP TOBACCO SMOKELESS"  
^TMP("BSTSAPI",166128,182)="PXRМ BGP TOBACCO SMOKER"  
^TMP("BSTSAPI",166128,183)="PXRМ BGP VARICELLA"  
^TMP("BSTSAPI",166128,184)="PXRМ BQI ALCOHOL SCREENING"  
^TMP("BSTSAPI",166128,185)="PXRМ BQI CHLAMYDIA SCREENING"  
^TMP("BSTSAPI",166128,186)="PXRМ BQI DEPRESSION SCREENING"  
^TMP("BSTSAPI",166128,187)="PXRМ BQI INFLUENZA IMM"  
^TMP("BSTSAPI",166128,188)="PXRМ BQI PNEUMOCOCCAL IMM"  
^TMP("BSTSAPI",166128,189)="PXRМ BQI SUICIDE ATTEMPT"  
^TMP("BSTSAPI",166128,190)="PXRМ BQI SUICIDE COMPLETION"  
^TMP("BSTSAPI",166128,191)="PXRМ BQI SUICIDE IDEATION"  
^TMP("BSTSAPI",166128,192)="PXRМ BQI TUBERCULOSIS IMM"  
^TMP("BSTSAPI",166128,193)="PXRМ CKD STAGE 3 AND GREATER"  
^TMP("BSTSAPI",166128,194)="PXRМ COLORECTAL CANCER"  
^TMP("BSTSAPI",166128,195)="PXRМ DIABETES"  
^TMP("BSTSAPI",166128,196)="PXRМ DIABETES TYPE I"  
^TMP("BSTSAPI",166128,197)="PXRМ DIABETIC NEPHROPATHY"  
^TMP("BSTSAPI",166128,198)="PXRМ DIALYSIS"  
^TMP("BSTSAPI",166128,199)="PXRМ END OF LIFE"  
^TMP("BSTSAPI",166128,200)="PXRМ END STAGE RENAL DISEASE"  
^TMP("BSTSAPI",166128,201)="PXRМ ESSENTIAL HYPERTENSION"  
^TMP("BSTSAPI",166128,202)="PXRМ HEPATITIS C"  
^TMP("BSTSAPI",166128,203)="PXRМ HIV"  
^TMP("BSTSAPI",166128,204)="PXRМ HYPERTENSION"  
^TMP("BSTSAPI",166128,205)="PXRМ ISCHEMIC HEART DISEASE"  
^TMP("BSTSAPI",166128,206)="PXRМ OPEN ANGLE GLAUCOMA"  
^TMP("BSTSAPI",166128,207)="PXRМ OSTEOPOROSIS-OSTEOPENIA"  
^TMP("BSTSAPI",166128,208)="PXRМ OVERWT OBESE 65 AND OVER"  
^TMP("BSTSAPI",166128,209)="PXRМ OVERWT OBESE UNDER 65"  
^TMP("BSTSAPI",166128,210)="PXRМ PALLIATIVE CARE"  
^TMP("BSTSAPI",166128,211)="PXRМ TOBACCO EVER SMOKED"  
^TMP("BSTSAPI",166128,212)="SRCH Abnormal Findings"  
^TMP("BSTSAPI",166128,213)="SRCH Administrative"  
^TMP("BSTSAPI",166128,214)="SRCH Asthma"  
^TMP("BSTSAPI",166128,215)="SRCH Audiology"  
^TMP("BSTSAPI",166128,216)="SRCH Behavioral Health"  
^TMP("BSTSAPI",166128,217)="SRCH Cardiology"  
^TMP("BSTSAPI",166128,218)="SRCH Case Management"  
^TMP("BSTSAPI",166128,219)="SRCH COG FUNCT STATUS"  
^TMP("BSTSAPI",166128,220)="SRCH Common Terms"  
^TMP("BSTSAPI",166128,221)="SRCH Complementary Medicine"  
^TMP("BSTSAPI",166128,222)="SRCH Congenital Anomalies"  
^TMP("BSTSAPI",166128,223)="SRCH Dental"  
^TMP("BSTSAPI",166128,224)="SRCH Dermatology"  
^TMP("BSTSAPI",166128,225)="SRCH Diabetes"  
^TMP("BSTSAPI",166128,226)="SRCH Diabetes Education"  
^TMP("BSTSAPI",166128,227)="SRCH Emergency Department"  
^TMP("BSTSAPI",166128,228)="SRCH ENT"  
^TMP("BSTSAPI",166128,229)="SRCH Eye General"  
^TMP("BSTSAPI",166128,230)="SRCH Eye Surgery"  
^TMP("BSTSAPI",166128,231)="SRCH Family History"  
^TMP("BSTSAPI",166128,232)="SRCH Family Planning"  
^TMP("BSTSAPI",166128,233)="SRCH Family Practice"  
^TMP("BSTSAPI",166128,234)="SRCH Gastrointestinal"  
^TMP("BSTSAPI",166128,235)="SRCH Health Maint/Screenings"
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^TMP("BSTSAPI",166128,236)="SRCH Hematology/Oncology"
^TMP("BSTSAPI",166128,237)="SRCH Hypertension"
^TMP("BSTSAPI",166128,238)="SRCH Immunizations"
^TMP("BSTSAPI",166128,239)="SRCH Laboratory"
^TMP("BSTSAPI",166128,240)="SRCH Medicine - Inpatient"
^TMP("BSTSAPI",166128,241)="SRCH Medicine - Urgent Care"
^TMP("BSTSAPI",166128,242)="SRCH Musculoskeletal"
^TMP("BSTSAPI",166128,243)="SRCH Neurology"
^TMP("BSTSAPI",166128,244)="SRCH Nursing"
^TMP("BSTSAPI",166128,245)="SRCH Nursing - Ambulatory"
^TMP("BSTSAPI",166128,246)="SRCH Nursing - ED/UC"
^TMP("BSTSAPI",166128,247)="SRCH Nursing - Inpatient"
^TMP("BSTSAPI",166128,248)="SRCH Nursing - Public Health"
^TMP("BSTSAPI",166128,249)="SRCH Nutrition"
^TMP("BSTSAPI",166128,250)="SRCH Pain Management"
^TMP("BSTSAPI",166128,251)="SRCH Pediatrics"
^TMP("BSTSAPI",166128,252)="SRCH Pharmacy"
^TMP("BSTSAPI",166128,253)="SRCH Physical Medicine"
^TMP("BSTSAPI",166128,254)="SRCH Physical Rehabilitation"
^TMP("BSTSAPI",166128,255)="SRCH Podiatry"
^TMP("BSTSAPI",166128,256)="SRCH Prenatal"
^TMP("BSTSAPI",166128,257)="SRCH Preventive Care"
^TMP("BSTSAPI",166128,258)="SRCH Problem List - Medical"
^TMP("BSTSAPI",166128,259)="SRCH Problem List - Nursing"
^TMP("BSTSAPI",166128,260)="SRCH Problem List - Social Env"
^TMP("BSTSAPI",166128,261)="SRCH Respiratory"
^TMP("BSTSAPI",166128,262)="SRCH Rheumatology"
^TMP("BSTSAPI",166128,263)="SRCH Social Services"
^TMP("BSTSAPI",166128,264)="SRCH Suicide"
^TMP("BSTSAPI",166128,265)="SRCH Trauma"
^TMP("BSTSAPI",166128,266)="SRCH Urology/Nephrology"
^TMP("BSTSAPI",166128,267)="SRCH WH - Family Planning"
^TMP("BSTSAPI",166128,268)="SRCH WH - General"
^TMP("BSTSAPI",166128,269)="SRCH WH - Pap Results"
^TMP("BSTSAPI",166128,270)="SRCH WH - Pelvic Pain"
^TMP("BSTSAPI",166128,271)="SRCH Womens Health"
^TMP("BSTSAPI",166128,272)="TREG Anticoag DVT Prevention"
^TMP("BSTSAPI",166128,273)="TREG Asthma"
^TMP("BSTSAPI",166128,274)="TREG Behavioral Health"
^TMP("BSTSAPI",166128,275)="TREG Case Management"
^TMP("BSTSAPI",166128,276)="TREG Dialysis"
^TMP("BSTSAPI",166128,277)="TREG Follow Up"
^TMP("BSTSAPI",166128,278)="TREG Massage Therapy"
^TMP("BSTSAPI",166128,279)="TREG Nursing"
^TMP("BSTSAPI",166128,280)="TREG Substance Abuse"
^TMP("BSTSAPI",166128,281)="TREG Wound Care"
>

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Figure A-21: SNOMED CT available subsets using DTS lookup

A.7 \$\$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)="130969003^210604017^Health seeking behavior"
VAR(2)="266758009^397223010^Immunization contraindicated"
VAR(3)="418043000^2578952010^Advice given"
VAR(4)="171226003^265323017^Aortic aneurysm screening"
VAR(5)="397940009^1777529016^Victim of child abuse"
VAR(6)="185665008^285656016^BP screening - first call"
VAR(7)="392089008^1486075012^Breast procedure"
VAR(8)="46662001^77772014^Examination of breast"
VAR(9)="171216005^265312016^Cataract screening"
VAR(10)="274412005^410210013^Eye disorder screening"
VAR(11)="171164006^265213011^Cervical smear due"
VAR(12)="95922009^158895013^Child sex abuse"
VAR(13)="268563000^401589018^Child health medical examination"
VAR(14)="408761008^2470622012^Children's vision screening"
VAR(15)="408760009^2470621017^Vision screening"
VAR(16)="428171000124102^635271000124117^Depression screening negative"
VAR(17)="428181000124104^635251000124110^Depression screening positive"
VAR(18)="401081006^1780286017^Diabetic peripheral neuropathy screening"
VAR(19)="394642008^1488367018^Drug screening test"
VAR(20)="460617003^2922918015^Education of caregiver"
VAR(21)="171253004^265358015^Exercise status screening"
VAR(22)="410385005^2472046011^Family planning surveillance"
VAR(23)="401212003^1774852017^Fecal screening tests"
VAR(24)="171313004^265475013^Geriatric screening"
VAR(25)="170985004^2469401019^Person counseled"
VAR(26)="81302005^134872016^Worried well"
VAR(27)="252404004^375955013^Hepatitis A antigen screening"
VAR(28)="171122006^265164019^Hepatitis B screening"
VAR(29)="310373003^453951018^Immunization advised"
VAR(30)="225060009^338241019^Lifestyle screening"
VAR(31)="170988002^2469404010^Relative counseled"
VAR(32)="171209009^265302011^Tobacco usage screening"
VAR(33)="410642005^2472296015^Well child visit, 10 years"
VAR(34)="410620009^2472274014^Well child visit"
VAR(35)="391147004^1485169011^HPV - Human papillomavirus test positive"
VAR(36)="4854004^9091010^Acquired hemolytic anemia"
VAR(37)="387705004^1477163017^Hemolytic disease of fetus OR newborn due to isoimmunization"
VAR(38)="62479008^103840012^AIDS"
VAR(39)="86406008^143288017^Human immunodeficiency virus infection"
VAR(40)="389098007^1483154012^Anoxic encephalopathy"
VAR(41)="105629000^169750018^Chlamydial infection"
VAR(42)="196298000^301925015^Acute dentine dental caries"
VAR(43)="442551007^3029062018^Dental caries extending into dentin"
VAR(44)="196301001^301928018^Acute enamel dental caries"
VAR(45)="80353004^133324017^Enamel caries"
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VAR(46)="18917003^31892013^Acute fulminating type A viral hepatitis"
VAR(47)="25102003^42082019^Acute type A viral hepatitis"
VAR(48)="13265006^22692019^Acute fulminating type B viral hepatitis"
VAR(49)="76795007^127504014^Acute type B viral hepatitis"
VAR(50)="426165006^2675239013^Acute genitourinary chlamydia infection"
VAR(51)="312099009^455763019^Genitourinary chlamydia infection"
VAR(52)="426247003^2676041011^Acute genitourinary Chlamydia trachomatis
infection"
VAR(53)="240589008^360379017^Chlamydia trachomatis infection"
VAR(54)="186624004^286863012^Acute hepatitis B with delta agent
(coinfection) with hepatic coma"
VAR(55)="235864009^353573018^Acute hepatitis B with hepatitis D"
VAR(56)="424099008^3008432017^Hepatic coma due to acute hepatitis B"
VAR(57)="186626002^286866016^Acute hepatitis B with delta-agent
(coinfection) without hepatic coma"
VAR(58)="111880001^179043011^Acute HIV infection"
VAR(59)="87117006^144456015^HIV infection with acute lymphadenitis"
VAR(60)="40468003^67480019^Viral hepatitis, type A"
VAR(61)="66071002^109732019^Type B viral hepatitis"
VAR(62)="268565007^401591014^Adult health examination"
VAR(63)="78318003^129970016^History and physical examination, annual for
health maintenance"
VAR(64)="281029006^418926017^Well man health examination"
VAR(65)="281031002^418928016^Well woman health examination"
VAR(66)="171208001^265301016^Alcohol consumption screening"
VAR(67)="84758004^140514014^Amphetamine abuse"
VAR(68)="427205009^2674599017^Amphetamine abuse, continuous"
VAR(69)="429692000^2696065019^Amphetamine abuse, episodic"
VAR(70)="21647008^36324011^Amphetamine dependence"
VAR(71)="426873000^2676031013^Methamphetamine dependence"
VAR(72)="191845006^295200014^Amphetamine or psychostimulant dependence in
remission"
VAR(73)="191843004^295198015^Amphetamine or psychostimulant dependence,
continuous"
VAR(74)="191844005^295199011^Amphetamine or psychostimulant dependence,
episodic"
VAR(75)="234349007^351085011^Microcytic anemia"
VAR(76)="171201007^265284011^Anemia screening"
VAR(77)="79031007^131139015^Anicteric type A viral hepatitis"
VAR(78)="53425008^88836017^Anicteric type B viral hepatitis"
VAR(79)="30828007^51603016^Anoxia, in liveborn infant"
VAR(80)="281579001^419620017^Perinatal hypoxia"
VAR(81)="169595006^263136014^A/N care: H/O child abuse"
VAR(82)="243787009^364616017^Antenatal screening"
VAR(83)="231470001^346938014^Anxiolytic dependence"
VAR(84)="268640002^401791011^Hypnotic or anxiolytic dependence"
VAR(85)="80753001^133949013^Arrested dental caries"
VAR(86)="80967001^134311013^Dental caries"
VAR(87)="315019000^459481013^HIV infection with aseptic meningitis"
VAR(88)="91947003^152322017^Asymptomatic human immunodeficiency virus
infection"
VAR(89)="276580005^412791015^Atypical isoimmunization of newborn"
VAR(90)="428015005^2694861013^Chlamydia trachomatis infection of genital
structure"
VAR(91)="188463006^289547011^Chlamydial pelvic inflammatory disease"
VAR(92)="367504009^492483019^PID with female sterility due to Chlamydia
trachomatis"
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VAR(93)="186731007^287038016^Chlamydial infection of anus and rectum"
VAR(94)="446752000^2884076018^Infection of peritoneum due to Chlamydia
trachomatis"
VAR(95)="179101003^277121011^Urethritis due to Chlamydia trachomatis"
VAR(96)="231462006^346928016^Barbiturate abuse"
VAR(97)="64386003^107023015^Sedative abuse"
VAR(98)="231472009^346941017^Barbiturate dependence"
VAR(99)="427327003^2673574010^Sedative dependence"
VAR(100)="231473004^346942012^Benzodiazepine dependence"
VAR(101)="231474005^346943019^Diazepam dependence"
VAR(102)="231475006^346945014^Librium dependence"
VAR(103)="206187005^316128013^Birth trauma, asphyxia and hypoxia"
VAR(104)="171176006^265234016^Breast neoplasm screening abnormal"
VAR(105)="171175005^265233010^Breast neoplasm screening normal"
VAR(106)="414025005^2532908019^Disorder of fetus or newborn"
VAR(107)="171161003^265210014^Ca cervix screening abnormal"
VAR(108)="171160002^265209016^Ca cervix screening normal"
VAR(109)="442231009^2819937013^Caries involving multiple surfaces of tooth"
VAR(110)="109577004^174181019^Primary dental caries, multisurface origin"
VAR(111)="109578009^174182014^Caries of infancy"
VAR(112)="109581004^174187015^Caries of infancy associated with bottle
feeding"
VAR(113)="109580003^174185011^Caries of infancy associated with breast
feeding"
VAR(114)="386230005^1480408011^Case management"
VAR(115)="30512007^51063015^Cementum caries"
VAR(116)="371779005^1210375015^Physical child abuse"
VAR(117)="161062006^251124011^Child abuse in family"
VAR(118)="310240007^453842010^Hearing screening status"
VAR(119)="412718006^2474276012^Chlamydia screening declined"
VAR(120)="420910002^2693755012^Chlamydia trachomatis infection of anus and
rectum"
VAR(121)="446642005^2884242016^Infection of anus due to Chlamydia
trachomatis"
VAR(122)="447372001^2883731019^Infection of rectum due to Chlamydia
trachomatis"
VAR(123)="447353001^2883503013^Infection of cervix due to Chlamydia
trachomatis"
VAR(124)="447402003^2882845010^Infection of vagina due to Chlamydia
trachomatis"
VAR(125)="447386002^2883136015^Infection of vulva due to Chlamydia
trachomatis"
VAR(126)="189312004^290842015^Pelvic inflammation with female sterility due
to Chlamydia trachomatis"
VAR(127)="186729003^287036017^Chlamydial infection of lower genitourinary
tract"
VAR(128)="237084006^355365012^Chlamydial cervicitis"
VAR(129)="238372002^357290012^Chlamydial dermatological disorders"
VAR(130)="237097008^355388013^Chlamydial vulvovaginitis"
VAR(131)="237039009^355296017^Chlamydial salpingitis"
VAR(132)="198176005^304699015^Female chlamydial pelvic inflammatory
disease"
VAR(133)="275972003^411949013^Cholesterol screening"
VAR(134)="50167007^83566015^Chronic active type B viral hepatitis"
VAR(135)="61977001^103019010^Chronic type B viral hepatitis"
VAR(136)="1116000^2956015^Chronic aggressive type B viral hepatitis"
VAR(137)="196299008^301926019^Chronic dentine dental caries"
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VAR(138)="196302008^301929014^Chronic enamel dental caries"  
VAR(139)="402894005^1781979011^Recurrent genital herpes simplex"  
VAR(140)="38662009^64336013^Chronic persistent type B viral hepatitis"  
VAR(141)="235869004^353579019^Chronic viral hepatitis B with hepatitis D"  
VAR(142)="186639003^286879013^Chronic viral hepatitis B without delta-agent"  
VAR(143)="78267003^129874012^Cocaine abuse"  
VAR(144)="191916008^295299015^Nondependent cocaine abuse"  
VAR(145)="31956009^53398019^Cocaine dependence"  
VAR(146)="191833002^295178013^Cocaine dependence in remission"  
VAR(147)="191831000^295176012^Cocaine dependence, continuous"  
VAR(148)="191832007^295177015^Cocaine dependence, episodic"  
VAR(149)="444783004^2870627012^Screening colonoscopy"  
VAR(150)="83607001^138662012^Gynecologic examination"  
VAR(151)="75544000^125472011^Opioid dependence"  
VAR(152)="11687002^20191016^Gestational diabetes mellitus"  
VAR(153)="52079000^86691015^Congenital human immunodeficiency virus infection"  
VAR(154)="206373002^316475015^Congenital hepatitis A infection"  
VAR(155)="276666007^412920019^Congenital human immunodeficiency virus positive status syndrome"  
VAR(156)="60498001^100520013^Congenital viral hepatitis B infection"  
VAR(157)="191819002^295154015^Continuous opioid dependence"  
VAR(158)="397619005^2576233016^Family planning education"  
VAR(159)="409063005^2469564010^Counseling"  
VAR(160)="445142003^2871733018^Counseling about disease"  
VAR(161)="196305005^301932012^Odontoclasia"  
VAR(162)="163152009^254264018^O/E - dental caries"  
VAR(163)="234976000^352147013^Rampant dental caries"  
VAR(164)="95254009^157779017^Secondary dental caries"  
VAR(165)="109564008^174168014^Dental caries associated with enamel hypomineralization"  
VAR(166)="95253003^157778013^Secondary dental caries associated with local or systemic factors"  
VAR(167)="109566005^174170017^Dental caries associated with enamel hypoplasia"  
VAR(168)="109569003^174173015^Dental caries secondary to acquired defects of tooth structure"  
VAR(169)="109568006^174172013^Dental caries secondary to developmental defects of tooth structure"  
VAR(170)="171207006^265300015^Depression screening"  
VAR(171)="171183004^265249012^Diabetes mellitus screening"  
VAR(172)="134395001^216201011^Diabetic retinopathy screening"  
VAR(173)="235726002^353370019^Human immunodeficiency virus enteropathy"  
VAR(174)="231461004^346927014^Hypnotic or anxiolytic abuse"  
VAR(175)="191924003^295311015^Nondependent amphetamine or psychostimulant abuse, continuous"  
VAR(176)="191918009^295301010^Nondependent cocaine abuse, continuous"  
VAR(177)="191905001^295286018^Nondependent hypnotic or anxiolytic abuse, continuous"  
VAR(178)="191912005^295295014^Nondependent opioid abuse, continuous"  
VAR(179)="95247003^157768010^Salivary dysfunction caries secondary to medication"  
VAR(180)="307337003^450578010^Duffy isoimmunization of the newborn"  
VAR(181)="171219003^265315019^Ear disorder screening"  
VAR(182)="15733007^26656015^Incipient enamel caries"  
VAR(183)="109572005^174176011^Primary dental caries, cervical origin"
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VAR(184)="109571003^174175010^Primary dental caries, indeterminate origin"
VAR(185)="109574006^174178012^Primary dental caries, nonproximal smooth
surface origin"
VAR(186)="109575007^174179016^Primary dental caries, pit and fissure
origin"
VAR(187)="109573000^174177019^Primary dental caries, proximal smooth
surface origin"
VAR(188)="109576008^174180018^Primary dental caries, root surface origin"
VAR(189)="191820008^295155019^Episodic opioid dependence"
VAR(190)="427578006^2673528011^Herpes simplex of female genitalia"
VAR(191)="59819007^99366010^Herpetic ulceration of vulva"
VAR(192)="129670002^208507013^Herpetic cervicitis"
VAR(193)="426001001^2676030014^Fentanyl dependence"
VAR(194)="275367000^411339016^Intrauterine hypoxia"
VAR(195)="33839006^56485016^Genital herpes simplex"
VAR(196)="440714005^2791676019^Genital Herpes simplex type 1 infection"
VAR(197)="423391007^2645763011^Genital herpes simplex type 2"
VAR(198)="439912007^2791465011^Recurrent genital Herpes simplex type 1
infection"
VAR(199)="439913002^2791466012^Recurrent genital Herpes simplex type 2
infection"
VAR(200)="402888002^1781973012^Primary herpes simplex infection of
genitalia"
VAR(201)="75022004^124602011^Gestational diabetes mellitus, class A>1<"
VAR(202)="46894009^78158011^Gestational diabetes mellitus, class A>2<"
VAR(203)="171221008^265317010^Heart disease screening"
VAR(204)="32858009^54835019^Hemolytic disease of fetus OR newborn due to
ABO immunization"
VAR(205)="86986002^2155367014^Hemolytic disease of fetus OR newborn due to
RhD isoimmunization"
VAR(206)="111469006^178710011^Hemolytic disease of the newborn due to non-
ABO, non-Rh isoimmunization"
VAR(207)="15539009^26354014^Hydrops fetalis due to isoimmunization"
VAR(208)="234380002^351141012^Kell isoimmunization of the newborn"
VAR(209)="359007^1689015^Kernicterus due to isoimmunization"
VAR(210)="307338008^450579019^Kidd isoimmunization of the newborn"
VAR(211)="68361004^113549012^Late anemia due to isoimmunization"
VAR(212)="26206000^3008554017^Hepatic coma due to viral hepatitis B"
VAR(213)="424340000^3008471019^Hepatic coma due to chronic hepatitis B"
VAR(214)="16060001^3008400017^Hepatic coma due to viral hepatitis A"
VAR(215)="442374005^2818954010^Hepatitis B and hepatitis C"
VAR(216)="442134007^2819115019^Hepatitis B associated with Human
immunodeficiency virus infection"
VAR(217)="235871004^353582012^Hepatitis B carrier"
VAR(218)="413107006^2474656012^Hepatitis C screening"
VAR(219)="231477003^346947018^Heroin dependence"
VAR(220)="27420004^45851012^Herpetic vulvovaginitis"
VAR(221)="278068003^414853010^Herpetic vesicle in vagina"
VAR(222)="402890001^1781975017^Primary herpetic vulvovaginitis"
VAR(223)="402896007^1781981013^Recurrent herpetic vulvovaginitis"
VAR(224)="40780007^68021013^Human immunodeficiency virus I infection"
VAR(225)="79019005^131125015^Human immunodeficiency virus II infection"
VAR(226)="186706006^287010012^Human immunodeficiency virus infection
constitutional disease"
VAR(227)="48794007^81304010^HIV infection with infectious mononucleosis-
like syndrome"

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VAR(228)="186707002^2817187010^Human immunodeficiency virus infection with neurological disease"
VAR(229)="186708007^287013014^Human immunodeficiency virus infection with secondary clinical infectious disease"
VAR(230)="240103002^359715014^Human immunodeficiency virus myopathy"
VAR(231)="171121004^265162015^HIV screening"
VAR(232)="235009000^352196015^Human immunodeficiency virus-associated periodontitis"
VAR(233)="398329009^3028930012^Human immunodeficiency virus encephalitis"
VAR(234)="397763006^3028943012^Human immunodeficiency virus encephalopathy"
VAR(235)="230180003^3028924012^Human immunodeficiency virus leukoencephalopathy"
VAR(236)="391148009^1485170012^HPV - Human papillomavirus test negative"
VAR(237)="268552003^401571019^Hyperlipidemia screening"
VAR(238)="171222001^265318017^Hypertension screening"
VAR(239)="191827006^295170018^Hypnotic or anxiolytic dependence in remission"
VAR(240)="191825003^295168010^Hypnotic or anxiolytic dependence, continuous"
VAR(241)="191826002^295169019^Hypnotic or anxiolytic dependence, episodic"
VAR(242)="276570006^412764017^Perinatal hypoxia and asphyxia"
VAR(243)="294648008^434939017^Influenza split virion vaccine allergy"
VAR(244)="294647003^434938013^Influenza vaccine allergy"
VAR(245)="294649000^434940015^Influenza surface antigen vaccine allergy"
VAR(246)="191909007^295290016^Nondependent opioid abuse"
VAR(247)="171198002^265281015^Iron deficiency screening"
VAR(248)="445272000^2870751012^Late effect of child abuse"
VAR(249)="87199005^144596015^Lead screening"
VAR(250)="206266009^316280014^Liveborn with labor fetal distress"
VAR(251)="231478008^346949015^Methadone dependence"
VAR(252)="231479000^346950015^Morphine dependence"
VAR(253)="230598008^345522015^Neuropathy due to human immunodeficiency virus"
VAR(254)="268648009^401800012^Nondependent amphetamine or other psychostimulant abuse"
VAR(255)="414874007^2534808016^Nondependent amphetamine or psychostimulant abuse in remission"
VAR(256)="191925002^295312010^Nondependent amphetamine or psychostimulant abuse, episodic"
VAR(257)="191920007^295303013^Nondependent cocaine abuse in remission"
VAR(258)="191919001^295302015^Nondependent cocaine abuse, episodic"
VAR(259)="268647004^401799013^Nondependent hypnotic or anxiolytic abuse"
VAR(260)="191907009^295288017^Nondependent hypnotic or anxiolytic abuse in remission"
VAR(261)="191906000^295287010^Nondependent hypnotic or anxiolytic abuse, episodic"
VAR(262)="5602001^10350013^Opioid abuse"
VAR(263)="191914006^295297018^Nondependent opioid abuse in remission"
VAR(264)="191913000^295296010^Nondependent opioid abuse, episodic"
VAR(265)="268551005^401568010^Obesity screening"
VAR(266)="191821007^295156018^Opioid dependence in remission"
VAR(267)="231480002^346951016^Opium dependence"
VAR(268)="133899007^213636011^Postoperative care"
VAR(269)="95929000^158908017^Psychologically abused elder"
VAR(270)="95248008^157769019^Salivary dysfunction carries secondary to radiation therapy"
VAR(271)="446698005^2883285015^Reactivation of hepatitis B viral hepatitis"
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VAR(272)="43634002^72756013^Relapsing type A viral hepatitis"
VAR(273)="160873007^250814011^Removed - child abuse register"
VAR(274)="95246007^157767017^Salivary dysfunction caries secondary to
aging"
VAR(275)="95249000^157770018^Salivary dysfunction dental caries"
VAR(276)="15886004^26911013^Screening for cancer"
VAR(277)="268547008^2821305019^Screening for malignant neoplasm of breast"
VAR(278)="171149006^2821322017^Screening for malignant neoplasm of cervix"
VAR(279)="444822002^2872725016^Screening for malignant neoplasm of
prostate"
VAR(280)="444638005^2872563014^Screening for malignant neoplasm of skin"
VAR(281)="442487003^2820682018^Screening for Chlamydia trachomatis"
VAR(282)="300004007^440991014^Screening for osteoporosis"
VAR(283)="171182009^265248016^Thyroid disorder screening"
VAR(284)="275978004^2821318010^Screening for malignant neoplasm of colon"
VAR(285)="95252008^15777015^Secondary dental caries associated with failed
or defective dental restoration"
VAR(286)="185186007^285166011^Seen in well child clinic"
VAR(287)="162596006^3006600017^Suspected victim of child abuse"
VAR(288)="171126009^265169012^Tuberculosis screening"
VAR(289)="171128005^265171012^Venereal disease screening"
VAR(290)="111879004^179042018^Viral hepatitis A without hepatic coma"
VAR(291)="424758008^2643521012^Viral hepatitis A without hepatic coma,
without hepatitis delta"
VAR(292)="111891008^179047012^Viral hepatitis B without hepatic coma"
VAR(293)="410621008^2472275010^Well child visit, newborn"
VAR(294)="446381000124104^672461000124117^Well child visit, newborn 8 to 28
days old"
VAR(295)="446301000124108^669081000124118^Well child visit, newborn less
than 8 days old"
VAR(296)="410417009^2472078015^Health promotion surveillance"
VAR(297)="440068009^2794437013^Home visit for newborn care and assessment"
VAR(298)="171434007^265642010^Health promotion"
VAR(299)="385828006^1480020010^Health promotion management"

>

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Figure A-22: SRCH Preventive Care

A.8 \$\$VALTERM^BSTSAPI

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

```

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

>W $$VALTERM^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"ABN")=0
VAR(1,"CMN")=0
VAR(1,"CON")=82272006
VAR(1,"DTS")=82272
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""

```

```

VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=823660015
VAR(1,"FSN","TRM")="Common cold (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"HEAL")=""
VAR(1,"ICD",1,"COD")="J00."
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ICD",1,"XADT")=3161031
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,"LAT")=0
VAR(1,"PAS")=1
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,"STS")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
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 Complementary Medicine"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="SRCH Emergency Department"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SUB",5,"SUB")="SRCH ENT"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="SRCH Family Practice"
VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
VAR(1,"SUB",7,"SUB")="SRCH Medicine - Inpatient"
VAR(1,"SUB",7,"XADT")=""
VAR(1,"SUB",7,"XRDT")=""
VAR(1,"SUB",8,"SUB")="SRCH Medicine - Urgent Care"
VAR(1,"SUB",8,"XADT")=""
VAR(1,"SUB",8,"XRDT")=""
VAR(1,"SUB",9,"SUB")="SRCH Pediatrics"
VAR(1,"SUB",9,"XADT")=""
VAR(1,"SUB",9,"XRDT")=""
VAR(1,"SUB",10,"SUB")="SRCH Problem List - Medical"
VAR(1,"SUB",10,"XADT")=""
VAR(1,"SUB",10,"XRDT")=""
VAR(1,"SUB",11,"SUB")="SRCH Respiratory"

```

```
VAR(1,"SUB",11,"XADT")=""
VAR(1,"SUB",11,"XRDT")=""
VAR(1,"SUB",12,"SUB")="PICK Complimentary Medicine"
VAR(1,"SUB",12,"XADT")=""
VAR(1,"SUB",12,"XRDT")=""
VAR(1,"SUB",13,"SUB")="PICK ENT - Fractures"
VAR(1,"SUB",13,"XADT")=""
VAR(1,"SUB",13,"XRDT")=""
VAR(1,"SUB",14,"SUB")="PICK ENT - Nose and Sinus"
VAR(1,"SUB",14,"XADT")=""
VAR(1,"SUB",14,"XRDT")=""
VAR(1,"SUB",15,"SUB")="PICK Family Practice"
VAR(1,"SUB",15,"XADT")=""
VAR(1,"SUB",15,"XRDT")=""
VAR(1,"SUB",16,"SUB")="PICK Family Practice Long"
VAR(1,"SUB",16,"XADT")=""
VAR(1,"SUB",16,"XRDT")=""
VAR(1,"SUB",17,"SUB")="PICK Medicine - Inpatient"
VAR(1,"SUB",17,"XADT")=""
VAR(1,"SUB",17,"XRDT")=""
VAR(1,"SYN",1,"DSC")=504996015
VAR(1,"SYN",1,"TRM")="Cold"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=504995016
VAR(1,"SYN",2,"TRM")="Acute infective rhinitis"
VAR(1,"SYN",2,"XADT")=3120301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"SYN",3,"DSC")=200997013
VAR(1,"SYN",3,"TRM")="Head cold"
VAR(1,"SYN",3,"XADT")=3120301.07
VAR(1,"SYN",3,"XRDT")=""
VAR(1,"SYN",4,"DSC")=136471015
VAR(1,"SYN",4,"TRM")="Infective nasopharyngitis"
VAR(1,"SYN",4,"XADT")=3120301.07
VAR(1,"SYN",4,"XRDT")=""
VAR(1,"SYN",5,"DSC")=136470019
VAR(1,"SYN",5,"TRM")="Acute nasopharyngitis"
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")=136468011
VAR(1,"SYN",7,"TRM")="Acute rhinitis"
VAR(1,"SYN",7,"XADT")=3120301.07
VAR(1,"SYN",7,"XRDT")=""
VAR(1,"SYN",8,"DSC")=136467018
VAR(1,"SYN",8,"TRM")="Infective nasopharyngitis, NOS"
VAR(1,"SYN",8,"XADT")=3120301.07
VAR(1,"SYN",8,"XRDT")=""
VAR(1,"SYN",9,"DSC")=136466010
VAR(1,"SYN",9,"TRM")="Acute nasal catarrh"
VAR(1,"SYN",9,"XADT")=3120301.07
VAR(1,"SYN",9,"XRDT")=""
VAR(1,"SYN",10,"DSC")=136465014
```

```

VAR(1,"SYN",10,"TRM")="Acute coryza"
VAR(1,"SYN",10,"XADT")=3120301.07
VAR(1,"SYN",10,"XRDT")=""
VAR(1,"SYN",11,"DSC")=136464013
VAR(1,"SYN",11,"TRM")="Acute nasopharyngitis, NOS"
VAR(1,"SYN",11,"XADT")=3120301.07
VAR(1,"SYN",11,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101
>

```

Figure A-23: Supplied terms validation

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

```

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

>W $$VALTERM^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1,"ABN")=0
VAR(1,"CMN")=0
VAR(1,"CON")=82272006
VAR(1,"DTS")=82272
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=823660015
VAR(1,"FSN","TRM")="Common cold (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"HEAL")=""
VAR(1,"ICD",1,"COD")="J00."
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ICD",1,"XADT")=3161031
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,"LAT")=0
VAR(1,"PAS")=1
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,"STS")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
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 Complementary Medicine"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="SRCH Emergency Department"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SUB",5,"SUB")="SRCH ENT"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="SRCH Family Practice"
VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
VAR(1,"SUB",7,"SUB")="SRCH Medicine - Inpatient"
VAR(1,"SUB",7,"XADT")=""
VAR(1,"SUB",7,"XRDT")=""
VAR(1,"SUB",8,"SUB")="SRCH Medicine - Urgent Care"
VAR(1,"SUB",8,"XADT")=""
VAR(1,"SUB",8,"XRDT")=""
VAR(1,"SUB",9,"SUB")="SRCH Pediatrics"
VAR(1,"SUB",9,"XADT")=""
VAR(1,"SUB",9,"XRDT")=""
VAR(1,"SUB",10,"SUB")="SRCH Problem List - Medical"
VAR(1,"SUB",10,"XADT")=""
VAR(1,"SUB",10,"XRDT")=""
VAR(1,"SUB",11,"SUB")="SRCH Respiratory"
VAR(1,"SUB",11,"XADT")=""
VAR(1,"SUB",11,"XRDT")=""
VAR(1,"SUB",12,"SUB")="PICK Complimentary Medicine"
VAR(1,"SUB",12,"XADT")=""
VAR(1,"SUB",12,"XRDT")=""
VAR(1,"SUB",13,"SUB")="PICK ENT - Fractures"
VAR(1,"SUB",13,"XADT")=""
VAR(1,"SUB",13,"XRDT")=""
VAR(1,"SUB",14,"SUB")="PICK ENT - Nose and Sinus"
VAR(1,"SUB",14,"XADT")=""
VAR(1,"SUB",14,"XRDT")=""
VAR(1,"SUB",15,"SUB")="PICK Family Practice"
VAR(1,"SUB",15,"XADT")=""
VAR(1,"SUB",15,"XRDT")=""
VAR(1,"SUB",16,"SUB")="PICK Family Practice Long"
VAR(1,"SUB",16,"XADT")=""
VAR(1,"SUB",16,"XRDT")=""
VAR(1,"SUB",17,"SUB")="PICK Medicine - Inpatient"
VAR(1,"SUB",17,"XADT")=""
VAR(1,"SUB",17,"XRDT")=""
VAR(1,"SYN",1,"DSC")=504996015
VAR(1,"SYN",1,"TRM")="Cold"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=504995016
VAR(1,"SYN",2,"TRM")="Acute infective rhinitis"
VAR(1,"SYN",2,"XADT")=3120301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"SYN",3,"DSC")=200997013

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```

VAR(1,"SYN",3,"TRM")="Head cold"
VAR(1,"SYN",3,"XADT")=3120301.07
VAR(1,"SYN",3,"XRDT")=""
VAR(1,"SYN",4,"DSC")=136471015
VAR(1,"SYN",4,"TRM")="Infective nasopharyngitis"
VAR(1,"SYN",4,"XADT")=3120301.07
VAR(1,"SYN",4,"XRDT")=""
VAR(1,"SYN",5,"DSC")=136470019
VAR(1,"SYN",5,"TRM")="Acute nasopharyngitis"
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")=136468011
VAR(1,"SYN",7,"TRM")="Acute rhinitis"
VAR(1,"SYN",7,"XADT")=3120301.07
VAR(1,"SYN",7,"XRDT")=""
VAR(1,"SYN",8,"DSC")=136467018
VAR(1,"SYN",8,"TRM")="Infective nasopharyngitis, NOS"
VAR(1,"SYN",8,"XADT")=3120301.07
VAR(1,"SYN",8,"XRDT")=""
VAR(1,"SYN",9,"DSC")=136466010
VAR(1,"SYN",9,"TRM")="Acute nasal catarrh"
VAR(1,"SYN",9,"XADT")=3120301.07
VAR(1,"SYN",9,"XRDT")=""
VAR(1,"SYN",10,"DSC")=136465014
VAR(1,"SYN",10,"TRM")="Acute coryza"
VAR(1,"SYN",10,"XADT")=3120301.07
VAR(1,"SYN",10,"XRDT")=""
VAR(1,"SYN",11,"DSC")=136464013
VAR(1,"SYN",11,"TRM")="Acute nasopharyngitis, NOS"
VAR(1,"SYN",11,"XADT")=3120301.07
VAR(1,"SYN",11,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101
>

```

Figure A-24: Supplied terms validation for codeset/version

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

```

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

>W $$VALTERM^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"ABN")=0
VAR(1,"ASM",1,"CON")=116289008
VAR(1,"ASM",1,"DTS")=116289
VAR(1,"CMN")=0
VAR(1,"CON")="ABDOMINAL BLOATING"
VAR(1,"DTS")=603
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""

```

```

VAR (1, "EQM", "DTS")=""
VAR (1, "EQM", "LAT")=""
VAR (1, "EQM", "XADT")=""
VAR (1, "EQM", "XRDT")=""
VAR (1, "FSN", "DSC")="T33"
VAR (1, "FSN", "TRM")="ABDOMINAL BLOATING"
VAR (1, "FSN", "XADT")=""
VAR (1, "FSN", "XRDT")=""
VAR (1, "HEAL")=""
VAR (1, "LAT")=0
VAR (1, "PAS")=0
VAR (1, "PRB", "DSC")="T33"
VAR (1, "PRB", "TRM")="ABDOMINAL BLOATING"
VAR (1, "STS")=""
VAR (1, "XADT")=""
VAR (1, "XRDT")=""
>

```

Figure A-25: Supplied terms validation for GMRA Signs Symptoms

A.9 \$\$VALSBTRM^BSTSAPI

The following example will return whether a supplied term is in a particular subset (using a local cache lookup). The result is returned in a variable:

```

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

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

>

```

Figure A-26: Supplied terms validation in subset

A.10 \$\$CNCLKP^BSTSAPI

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

```

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

>W $$CNCLKP^BSTSAPI (OUT, IN)
1
>ZW @OUT
VAR (1, "ABN")=0
VAR (1, "CHD", 1, "CON")=230760006
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")=230763008
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")=230759001
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,"CMN")=0
VAR(1,"CON")=2032001
VAR(1,"DTS")=2032
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=749395013
VAR(1,"FSN","TRM")="Cerebral edema (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"HEAL")=""
VAR(1,"ICD",1,"COD")="G93.6"
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ICD",1,"XADT")=3161031
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,"LAT")=0
VAR(1,"PAS")=1
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,"STS")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
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,"SUB",9,"SUB")="PICK Neurology Long"
VAR(1,"SUB",9,"XADT")=""
VAR(1,"SUB",9,"XRDT")=""
VAR(1,"SYN",1,"DSC")=480612016
VAR(1,"SYN",1,"TRM")="Cerebral oedema"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=4509013
VAR(1,"SYN",2,"TRM")="Intracranial swelling"
VAR(1,"SYN",2,"XADT")=3120301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101
>

```

Figure A-27: Concept ID detail

The following example retrieves the detail for a concept when the Concept ID is provided (using a remote DTS listing):

```

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

>W $$CNCLKP^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1,"ABN")=0
VAR(1,"CHD",1,"CON")=230760006
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")=230763008
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")=230759001
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,"CMN")=0
VAR(1,"CON")=2032001
VAR(1,"DTS")=2032
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=749395013
VAR(1,"FSN","TRM")="Cerebral edema (disorder)"
VAR(1,"FSN","XADT")=3120301.07
VAR(1,"FSN","XRDT")=""
VAR(1,"HEAL")=""
VAR(1,"ICD",1,"COD")="G93.6"
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ICD",1,"XADT")=3161031
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,"LAT")=0
VAR(1,"PAS")=1
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,"STS")=""
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
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,"SUB",9,"SUB")="PICK Neurology Long"
VAR(1,"SUB",9,"XADT")=""
VAR(1,"SUB",9,"XRDT")=""
VAR(1,"SYN",1,"DSC")=480612016
VAR(1,"SYN",1,"TRM")="Cerebral oedema"
VAR(1,"SYN",1,"XADT")=3120301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=4509013
VAR(1,"SYN",2,"TRM")="Intracranial swelling"
VAR(1,"SYN",2,"XADT")=3120301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101
>

```

Figure A-28: Concept ID detail using remote DTS listing

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

```

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

>W $$CNCLKP^BSTSAPI(OUT,IN)
1
>ZW @OUT
VAR(1,"ABN")=0
VAR(1,"CMN")=0
VAR(1,"CON")=851732
VAR(1,"DTS")=11328554
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
VAR(1,"FSN","DSC")=2973307
VAR(1,"FSN","TRM")="Acacia pollen extract"

```

```

VAR(1,"FSN","XADT")=""
VAR(1,"FSN","XRDT")=""
VAR(1,"HEAL")=""
VAR(1,"LAT")=0
VAR(1,"PAS")=0
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,"STS")=""
VAR(1,"SUB",1,"SUB")="RXNO SRCH Drug Ingredients All"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"TTY",1,"TTY")="IN"
VAR(1,"TTY",1,"XADT")=3091101.06
VAR(1,"TTY",1,"XRDT")=3500101.19
VAR(1,"XADT")=""
VAR(1,"XRDT")=""
>

```

Figure A-29: Concept ID detail using local cache listing

A.11 \$\$DTS LKP^BSTS API

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

```

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

>W $$DTS LKP^BSTS API (OUT,IN)
2^
>ZW @OUT
VAR(1,"ABN")=0
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")=5969009
VAR(1,"CHD",2,"DTS")=5969
VAR(1,"CHD",2,"TRM")="Diabetes mellitus associated with genetic syndrome
(disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=59079001
VAR(1,"CHD",3,"DTS")=59079
VAR(1,"CHD",3,"TRM")="Diabetes mellitus associated with hormonal etiology
(disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=51002006
VAR(1,"CHD",4,"DTS")=51002

```

```

VAR(1,"CHD",4,"TRM")="Diabetes mellitus associated with pancreatic disease
(disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=42954008
VAR(1,"CHD",5,"DTS")=42954
VAR(1,"CHD",5,"TRM")="Diabetes mellitus associated with receptor
abnormality (disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CHD",6,"CON")=75682002
VAR(1,"CHD",6,"DTS")=75682
VAR(1,"CHD",6,"TRM")="Diabetes mellitus caused by insulin receptor
antibodies (disorder)"
VAR(1,"CHD",6,"XADT")=""
VAR(1,"CHD",6,"XRDT")=""
VAR(1,"CHD",7,"CON")=276560009
VAR(1,"CHD",7,"DTS")=276560
VAR(1,"CHD",7,"TRM")="Diabetes mellitus in neonate small for gestational
age (disorder)"
VAR(1,"CHD",7,"XADT")=""
VAR(1,"CHD",7,"XRDT")=""
VAR(1,"CHD",8,"CON")=5368009
VAR(1,"CHD",8,"DTS")=5368
VAR(1,"CHD",8,"TRM")="Drug-induced diabetes mellitus (disorder)"
VAR(1,"CHD",8,"XADT")=""
VAR(1,"CHD",8,"XRDT")=""
VAR(1,"CHD",9,"CON")=408539000
VAR(1,"CHD",9,"DTS")=408539
VAR(1,"CHD",9,"TRM")="Insulin autoimmune syndrome (disorder)"
VAR(1,"CHD",9,"XADT")=""
VAR(1,"CHD",9,"XRDT")=""
VAR(1,"CHD",10,"CON")=75524006
VAR(1,"CHD",10,"DTS")=75524
VAR(1,"CHD",10,"TRM")="Malnutrition related diabetes mellitus (disorder)"
VAR(1,"CHD",10,"XADT")=""
VAR(1,"CHD",10,"XRDT")=""
VAR(1,"CHD",11,"CON")=445260006
VAR(1,"CHD",11,"DTS")=445260
VAR(1,"CHD",11,"TRM")="Posttransplant diabetes mellitus (disorder)"
VAR(1,"CHD",11,"XADT")=""
VAR(1,"CHD",11,"XRDT")=""
VAR(1,"CHD",12,"CON")=237601000
VAR(1,"CHD",12,"DTS")=237601
VAR(1,"CHD",12,"TRM")="Secondary endocrine diabetes mellitus (disorder)"
VAR(1,"CHD",12,"XADT")=""
VAR(1,"CHD",12,"XRDT")=""
VAR(1,"CMN")=0
VAR(1,"CON")=8801005
VAR(1,"DTS")=8801
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
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,"HEAL")=""
VAR(1,"ICD",1,"COD")="E13.9"
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ICD",1,"XADT")=3161031
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,"LAT")=0
VAR(1,"PAS")=1
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,"STS")="Chronic"
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SUB",2,"SUB")="SRCH Diabetes"
VAR(1,"SUB",2,"XADT")=""
VAR(1,"SUB",2,"XRDT")=""
VAR(1,"SUB",3,"SUB")="SRCH Pediatrics"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SUB",5,"SUB")="PICK Urology/Nephrology Long"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="PXRM DIABETES"
VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
VAR(1,"SYN",1,"DSC")=1109081000119118
VAR(1,"SYN",1,"TRM")="Secondary diabetes"
VAR(1,"SYN",1,"XADT")=3140301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=1109071000119116
VAR(1,"SYN",2,"TRM")="Secondary dm"
VAR(1,"SYN",2,"XADT")=3140301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"SYN",3,"DSC")=15519014
VAR(1,"SYN",3,"TRM")="Secondary diabetes mellitus, NOS"
VAR(1,"SYN",3,"XADT")=3120301.07
VAR(1,"SYN",3,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101
>

```

Figure A-30: DTS ID detail

A.12 \$\$DSCLKP^BSTSAPI

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

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

>W $$DSCLKP^BSTSAPI (OUT,IN)
1
>ZW @OUT
VAR(1,"ABN")=0
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")=5969009
VAR(1,"CHD",2,"DTS")=5969
VAR(1,"CHD",2,"TRM")="Diabetes mellitus associated with genetic syndrome
(disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=59079001
VAR(1,"CHD",3,"DTS")=59079
VAR(1,"CHD",3,"TRM")="Diabetes mellitus associated with hormonal etiology
(disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=51002006
VAR(1,"CHD",4,"DTS")=51002
VAR(1,"CHD",4,"TRM")="Diabetes mellitus associated with pancreatic disease
(disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=42954008
VAR(1,"CHD",5,"DTS")=42954
VAR(1,"CHD",5,"TRM")="Diabetes mellitus associated with receptor
abnormality (disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CHD",6,"CON")=75682002
VAR(1,"CHD",6,"DTS")=75682
VAR(1,"CHD",6,"TRM")="Diabetes mellitus caused by insulin receptor
antibodies (disorder)"
VAR(1,"CHD",6,"XADT")=""
VAR(1,"CHD",6,"XRDT")=""
VAR(1,"CHD",7,"CON")=276560009
VAR(1,"CHD",7,"DTS")=276560
VAR(1,"CHD",7,"TRM")="Diabetes mellitus in neonate small for gestational
age (disorder)"
VAR(1,"CHD",7,"XADT")=""
VAR(1,"CHD",7,"XRDT")=""
VAR(1,"CHD",8,"CON")=5368009
VAR(1,"CHD",8,"DTS")=5368
VAR(1,"CHD",8,"TRM")="Drug-induced diabetes mellitus (disorder)"
```

```

VAR(1,"CHD",8,"XADT")=""
VAR(1,"CHD",8,"XRDT")=""
VAR(1,"CHD",9,"CON")=408539000
VAR(1,"CHD",9,"DTS")=408539
VAR(1,"CHD",9,"TRM")="Insulin autoimmune syndrome (disorder)"
VAR(1,"CHD",9,"XADT")=""
VAR(1,"CHD",9,"XRDT")=""
VAR(1,"CHD",10,"CON")=75524006
VAR(1,"CHD",10,"DTS")=75524
VAR(1,"CHD",10,"TRM")="Malnutrition related diabetes mellitus (disorder)"
VAR(1,"CHD",10,"XADT")=""
VAR(1,"CHD",10,"XRDT")=""
VAR(1,"CHD",11,"CON")=445260006
VAR(1,"CHD",11,"DTS")=445260
VAR(1,"CHD",11,"TRM")="Posttransplant diabetes mellitus (disorder)"
VAR(1,"CHD",11,"XADT")=""
VAR(1,"CHD",11,"XRDT")=""
VAR(1,"CHD",12,"CON")=237601000
VAR(1,"CHD",12,"DTS")=237601
VAR(1,"CHD",12,"TRM")="Secondary endocrine diabetes mellitus (disorder)"
VAR(1,"CHD",12,"XADT")=""
VAR(1,"CHD",12,"XRDT")=""
VAR(1,"CMN")=0
VAR(1,"CON")=8801005
VAR(1,"DTS")=8801
VAR(1,"EPI")=0
VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
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,"HEAL")=""
VAR(1,"ICD",1,"COD")="E13.9"
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ICD",1,"XADT")=3161031
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,"LAT")=0
VAR(1,"PAS")=1
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,"STS")="Chronic"
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""

```

```

VAR(1,"SUB",2,"SUB")="SRCH Diabetes"
VAR(1,"SUB",2,"XADT")=""
VAR(1,"SUB",2,"XRDT")=""
VAR(1,"SUB",3,"SUB")="SRCH Pediatrics"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SUB",5,"SUB")="PICK Urology/Nephrology Long"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="PXRM DIABETES"
VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
VAR(1,"SYN",1,"DSC")=1109081000119118
VAR(1,"SYN",1,"TRM")="Secondary diabetes"
VAR(1,"SYN",1,"XADT")=3140301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=1109071000119116
VAR(1,"SYN",2,"TRM")="Secondary dm"
VAR(1,"SYN",2,"XADT")=3140301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"SYN",3,"DSC")=15519014
VAR(1,"SYN",3,"TRM")="Secondary diabetes mellitus, NOS"
VAR(1,"SYN",3,"XADT")=3120301.07
VAR(1,"SYN",3,"XRDT")=""
VAR(1,"XADT")=3120301
VAR(1,"XRDT")=3500101
>

```

Figure A-31: Description ID detail – local cache

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

```

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

>W $$DSCCLKP^BSTSAPI(OUT,IN)
2^
>ZW @OUT
VAR(1,"ABN")=0
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")=5969009
VAR(1,"CHD",2,"DTS")=5969
VAR(1,"CHD",2,"TRM")="Diabetes mellitus associated with genetic syndrome
(disorder)"
VAR(1,"CHD",2,"XADT")=""
VAR(1,"CHD",2,"XRDT")=""
VAR(1,"CHD",3,"CON")=59079001
VAR(1,"CHD",3,"DTS")=59079

```

```
VAR(1,"CHD",3,"TRM")="Diabetes mellitus associated with hormonal etiology (disorder)"
VAR(1,"CHD",3,"XADT")=""
VAR(1,"CHD",3,"XRDT")=""
VAR(1,"CHD",4,"CON")=51002006
VAR(1,"CHD",4,"DTS")=51002
VAR(1,"CHD",4,"TRM")="Diabetes mellitus associated with pancreatic disease (disorder)"
VAR(1,"CHD",4,"XADT")=""
VAR(1,"CHD",4,"XRDT")=""
VAR(1,"CHD",5,"CON")=42954008
VAR(1,"CHD",5,"DTS")=42954
VAR(1,"CHD",5,"TRM")="Diabetes mellitus associated with receptor abnormality (disorder)"
VAR(1,"CHD",5,"XADT")=""
VAR(1,"CHD",5,"XRDT")=""
VAR(1,"CHD",6,"CON")=75682002
VAR(1,"CHD",6,"DTS")=75682
VAR(1,"CHD",6,"TRM")="Diabetes mellitus caused by insulin receptor antibodies (disorder)"
VAR(1,"CHD",6,"XADT")=""
VAR(1,"CHD",6,"XRDT")=""
VAR(1,"CHD",7,"CON")=276560009
VAR(1,"CHD",7,"DTS")=276560
VAR(1,"CHD",7,"TRM")="Diabetes mellitus in neonate small for gestational age (disorder)"
VAR(1,"CHD",7,"XADT")=""
VAR(1,"CHD",7,"XRDT")=""
VAR(1,"CHD",8,"CON")=5368009
VAR(1,"CHD",8,"DTS")=5368
VAR(1,"CHD",8,"TRM")="Drug-induced diabetes mellitus (disorder)"
VAR(1,"CHD",8,"XADT")=""
VAR(1,"CHD",8,"XRDT")=""
VAR(1,"CHD",9,"CON")=408539000
VAR(1,"CHD",9,"DTS")=408539
VAR(1,"CHD",9,"TRM")="Insulin autoimmune syndrome (disorder)"
VAR(1,"CHD",9,"XADT")=""
VAR(1,"CHD",9,"XRDT")=""
VAR(1,"CHD",10,"CON")=75524006
VAR(1,"CHD",10,"DTS")=75524
VAR(1,"CHD",10,"TRM")="Malnutrition related diabetes mellitus (disorder)"
VAR(1,"CHD",10,"XADT")=""
VAR(1,"CHD",10,"XRDT")=""
VAR(1,"CHD",11,"CON")=445260006
VAR(1,"CHD",11,"DTS")=445260
VAR(1,"CHD",11,"TRM")="Posttransplant diabetes mellitus (disorder)"
VAR(1,"CHD",11,"XADT")=""
VAR(1,"CHD",11,"XRDT")=""
VAR(1,"CHD",12,"CON")=237601000
VAR(1,"CHD",12,"DTS")=237601
VAR(1,"CHD",12,"TRM")="Secondary endocrine diabetes mellitus (disorder)"
VAR(1,"CHD",12,"XADT")=""
VAR(1,"CHD",12,"XRDT")=""
VAR(1,"CMN")=0
VAR(1,"CON")=8801005
VAR(1,"DTS")=8801
VAR(1,"EPI")=0
```

```

VAR(1,"EQM","CON")=""
VAR(1,"EQM","DTS")=""
VAR(1,"EQM","LAT")=""
VAR(1,"EQM","XADT")=""
VAR(1,"EQM","XRDT")=""
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,"HEAL")=""
VAR(1,"ICD",1,"COD")="E13.9"
VAR(1,"ICD",1,"TYP")="10D"
VAR(1,"ICD",1,"XADT")=3161028
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,"LAT")=0
VAR(1,"PAS")=1
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,"STS")="Chronic"
VAR(1,"SUB",1,"SUB")="IHS PROBLEM ALL SNOMED"
VAR(1,"SUB",1,"XADT")=""
VAR(1,"SUB",1,"XRDT")=""
VAR(1,"SUB",2,"SUB")="SRCH Diabetes"
VAR(1,"SUB",2,"XADT")=""
VAR(1,"SUB",2,"XRDT")=""
VAR(1,"SUB",3,"SUB")="SRCH Pediatrics"
VAR(1,"SUB",3,"XADT")=""
VAR(1,"SUB",3,"XRDT")=""
VAR(1,"SUB",4,"SUB")="EHR IPL DEFAULT STATUS CHRONIC"
VAR(1,"SUB",4,"XADT")=""
VAR(1,"SUB",4,"XRDT")=""
VAR(1,"SUB",5,"SUB")="PICK Urology/Nephrology Long"
VAR(1,"SUB",5,"XADT")=""
VAR(1,"SUB",5,"XRDT")=""
VAR(1,"SUB",6,"SUB")="PXRM DIABETES"
VAR(1,"SUB",6,"XADT")=""
VAR(1,"SUB",6,"XRDT")=""
VAR(1,"SYN",1,"DSC")=1109081000119118
VAR(1,"SYN",1,"TRM")="Secondary diabetes"
VAR(1,"SYN",1,"XADT")=3140301.07
VAR(1,"SYN",1,"XRDT")=""
VAR(1,"SYN",2,"DSC")=1109071000119116
VAR(1,"SYN",2,"TRM")="Secondary dm"
VAR(1,"SYN",2,"XADT")=3140301.07
VAR(1,"SYN",2,"XRDT")=""
VAR(1,"SYN",3,"DSC")=15519014
VAR(1,"SYN",3,"TRM")="Secondary diabetes mellitus, NOS"
VAR(1,"SYN",3,"XADT")=3120301.07

```

```

VAR (1, "SYN", 3, "XRDT")=""
VAR (1, "XADT")=3120301
VAR (1, "XRDT")=""

>

```

Figure A-32: Description ID detail – DTS lookup

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

```

>S OUT="VAR", IN="5C5403N260.316825^5180"

>W $$DSCLKP^BSTSAPI (OUT, IN)
1
>ZW @OUT
VAR (1, "ABN")=0
VAR (1, "CMN")=0
VAR (1, "CON")="5C5403N260"
VAR (1, "DTS")=57
VAR (1, "EPI")=0
VAR (1, "EQM", "CON")=""
VAR (1, "EQM", "DTS")=""
VAR (1, "EQM", "LAT")=""
VAR (1, "EQM", "XADT")=""
VAR (1, "EQM", "XRDT")=""
VAR (1, "FSN", "DSC")="5C5403N260.57"
VAR (1, "FSN", "TRM")="ACACIA"
VAR (1, "FSN", "XADT")=""
VAR (1, "FSN", "XRDT")=""
VAR (1, "HEAL")=""
VAR (1, "LAT")=0
VAR (1, "PAS")=0
VAR (1, "PRB", "DSC")="5C5403N260.316825"
VAR (1, "PRB", "TRM")="ACACIA POWDER [VANDF]"
VAR (1, "STS")=""
VAR (1, "SYN", 1, "DSC")="5C5403N260.316825"
VAR (1, "SYN", 1, "TRM")="ACACIA POWDER [VANDF]"
VAR (1, "SYN", 1, "XADT")=""
VAR (1, "SYN", 1, "XRDT")=""
VAR (1, "SYN", 2, "DSC")="5C5403N260.316824"
VAR (1, "SYN", 2, "TRM")="ACACIA [VANDF]"
VAR (1, "SYN", 2, "XADT")=""
VAR (1, "SYN", 2, "XRDT")=""
VAR (1, "SYN", 3, "DSC")="5C5403N260.316823"
VAR (1, "SYN", 3, "TRM")="GUM ARABIC [VANDF]"
VAR (1, "SYN", 3, "XADT")=""
VAR (1, "SYN", 3, "XRDT")=""
VAR (1, "SYN", 4, "DSC")="5C5403N260.316822"
VAR (1, "SYN", 4, "TRM")="PLANTS AND PLANT PARTS, GUM, ACACIA OR ARABIC ACACIA
SENEG
AL"
VAR (1, "SYN", 4, "XADT")=""
VAR (1, "SYN", 4, "XRDT")=""
VAR (1, "SYN", 5, "DSC")="5C5403N260.316821"
VAR (1, "SYN", 5, "TRM")="ACACIA SENEGAL GUM [WHO-DD]"
VAR (1, "SYN", 5, "XADT")=""

```

```
VAR(1,"SYN",5,"XRDT")=""
VAR(1,"SYN",6,"DSC")="5C5403N260.316820"
VAR(1,"SYN",6,"TRM")="ACACIA SENEGAL RESIN [WHO-DD]"
VAR(1,"SYN",6,"XADT")=""
VAR(1,"SYN",6,"XRDT")=""
VAR(1,"SYN",7,"DSC")="5C5403N260.316819"
VAR(1,"SYN",7,"TRM")="ACACIA [HSDB]"
VAR(1,"SYN",7,"XADT")=""
VAR(1,"SYN",7,"XRDT")=""
VAR(1,"SYN",8,"DSC")="5C5403N260.316818"
VAR(1,"SYN",8,"TRM")="ARABIC GUM ALLERGENIC EXTRACT"
VAR(1,"SYN",8,"XADT")=""
VAR(1,"SYN",8,"XRDT")=""
VAR(1,"SYN",9,"DSC")="5C5403N260.316817"
VAR(1,"SYN",9,"TRM")="ALLERGENIC EXTRACT- GUM, ACACIA OR ARABIC ACACIA SENEGAL"
VAR(1,"SYN",9,"XADT")=""
VAR(1,"SYN",9,"XRDT")=""
VAR(1,"SYN",10,"DSC")="5C5403N260.316816"
VAR(1,"SYN",10,"TRM")="AE-GUM, ACACIA"
VAR(1,"SYN",10,"XADT")=""
VAR(1,"SYN",10,"XRDT")=""
VAR(1,"SYN",11,"DSC")="5C5403N260.316815"
VAR(1,"SYN",11,"TRM")="AE-GUM, ARABIC"
VAR(1,"SYN",11,"XADT")=""
VAR(1,"SYN",11,"XRDT")=""
VAR(1,"SYN",12,"DSC")="5C5403N260.165026"
VAR(1,"SYN",12,"TRM")="ACACIA [II]"
VAR(1,"SYN",12,"XADT")=""
VAR(1,"SYN",12,"XRDT")=""
VAR(1,"SYN",13,"DSC")="5C5403N260.165025"
VAR(1,"SYN",13,"TRM")="ACACIA MUCILAGE [II]"
VAR(1,"SYN",13,"XADT")=""
VAR(1,"SYN",13,"XRDT")=""
VAR(1,"SYN",14,"DSC")="5C5403N260.165024"
VAR(1,"SYN",14,"TRM")="GUM ARABIC [FCC]"
VAR(1,"SYN",14,"XADT")=""
VAR(1,"SYN",14,"XRDT")=""
VAR(1,"SYN",15,"DSC")="5C5403N260.165023"
VAR(1,"SYN",15,"TRM")="ACACIA [MI]"
VAR(1,"SYN",15,"XADT")=""
VAR(1,"SYN",15,"XRDT")=""
VAR(1,"SYN",16,"DSC")="5C5403N260.165022"
VAR(1,"SYN",16,"TRM")="ACACIA [MART.]"
VAR(1,"SYN",16,"XADT")=""
VAR(1,"SYN",16,"XRDT")=""
VAR(1,"SYN",17,"DSC")="5C5403N260.165021"
VAR(1,"SYN",17,"TRM")="ACACIA SENEGAL GUM [INCI]"
VAR(1,"SYN",17,"XADT")=""
VAR(1,"SYN",17,"XRDT")=""
VAR(1,"SYN",18,"DSC")="5C5403N260.165020"
VAR(1,"SYN",18,"TRM")="ACACIA SENEGAL GUM EXTRACT [INCI]"
VAR(1,"SYN",18,"XADT")=""
VAR(1,"SYN",18,"XRDT")=""
VAR(1,"SYN",19,"DSC")="5C5403N260.165019"
VAR(1,"SYN",19,"TRM")="ACACIA SENEGAL GUM"
VAR(1,"SYN",19,"XADT")=""
```

```
VAR (1, "SYN", 19, "XRDT")=""
VAR (1, "SYN", 20, "DSC")="5C5403N260.87154"
VAR (1, "SYN", 20, "TRM")="ARABIC GUM"
VAR (1, "SYN", 20, "XADT")=""
VAR (1, "SYN", 20, "XRDT")=""
VAR (1, "SYN", 21, "DSC")="5C5403N260.87153"
VAR (1, "SYN", 21, "TRM")="ACACIA, SPRAY-DRIED [EP]"
VAR (1, "SYN", 21, "XADT")=""
VAR (1, "SYN", 21, "XRDT")=""
VAR (1, "SYN", 22, "DSC")="5C5403N260.87152"
VAR (1, "SYN", 22, "TRM")="ACACIA, SPRAY-DRIED"
VAR (1, "SYN", 22, "XADT")=""
VAR (1, "SYN", 22, "XRDT")=""
VAR (1, "SYN", 23, "DSC")="5C5403N260.87151"
VAR (1, "SYN", 23, "TRM")="ACACIA GUM [FHFI]"
VAR (1, "SYN", 23, "XADT")=""
VAR (1, "SYN", 23, "XRDT")=""
VAR (1, "SYN", 24, "DSC")="5C5403N260.87150"
VAR (1, "SYN", 24, "TRM")="ACACIA ARABICA [HPUS]"
VAR (1, "SYN", 24, "XADT")=""
VAR (1, "SYN", 24, "XRDT")=""
VAR (1, "SYN", 25, "DSC")="5C5403N260.87149"
VAR (1, "SYN", 25, "TRM")="ACACIA SENEGAL GUM EXTRACT"
VAR (1, "SYN", 25, "XADT")=""
VAR (1, "SYN", 25, "XRDT")=""
VAR (1, "SYN", 26, "DSC")="5C5403N260.87148"
VAR (1, "SYN", 26, "TRM")="ACACIA POWDER"
VAR (1, "SYN", 26, "XADT")=""
VAR (1, "SYN", 26, "XRDT")=""
VAR (1, "SYN", 27, "DSC")="5C5403N260.21204"
VAR (1, "SYN", 27, "TRM")="THORNY ACACIA RESIN"
VAR (1, "SYN", 27, "XADT")=""
VAR (1, "SYN", 27, "XRDT")=""
VAR (1, "SYN", 28, "DSC")="5C5403N260.21203"
VAR (1, "SYN", 28, "TRM")="SENEGALIA SENEGAL RESIN"
VAR (1, "SYN", 28, "XADT")=""
VAR (1, "SYN", 28, "XRDT")=""
VAR (1, "SYN", 29, "DSC")="5C5403N260.21202"
VAR (1, "SYN", 29, "TRM")="SENEGAL GUM"
VAR (1, "SYN", 29, "XADT")=""
VAR (1, "SYN", 29, "XRDT")=""
VAR (1, "SYN", 30, "DSC")="5C5403N260.21201"
VAR (1, "SYN", 30, "TRM")="RFAUDRAKSHA RESIN"
VAR (1, "SYN", 30, "XADT")=""
VAR (1, "SYN", 30, "XRDT")=""
VAR (1, "SYN", 31, "DSC")="5C5403N260.21200"
VAR (1, "SYN", 31, "TRM")="MIMOSA SENEGAL RESIN"
VAR (1, "SYN", 31, "XADT")=""
VAR (1, "SYN", 31, "XRDT")=""
VAR (1, "SYN", 32, "DSC")="5C5403N260.21199"
VAR (1, "SYN", 32, "TRM")="KHER RESIN"
VAR (1, "SYN", 32, "XADT")=""
VAR (1, "SYN", 32, "XRDT")=""
VAR (1, "SYN", 33, "DSC")="5C5403N260.21198"
VAR (1, "SYN", 33, "TRM")="GUMMI ARABICUM"
VAR (1, "SYN", 33, "XADT")=""
VAR (1, "SYN", 33, "XRDT")=""
```

```
VAR(1,"SYN",34,"DSC")="5C5403N260.21197"  
VAR(1,"SYN",34,"TRM")="GUM SENEGAL"  
VAR(1,"SYN",34,"XADT")=""  
VAR(1,"SYN",34,"XRDT")=""  
VAR(1,"SYN",35,"DSC")="5C5403N260.21196"  
VAR(1,"SYN",35,"TRM")="ACACIAE GUMMI"  
VAR(1,"SYN",35,"XADT")=""  
VAR(1,"SYN",35,"XRDT")=""  
VAR(1,"SYN",36,"DSC")="5C5403N260.21195"  
VAR(1,"SYN",36,"TRM")="ACACIA VOLKII RESIN"  
VAR(1,"SYN",36,"XADT")=""  
VAR(1,"SYN",36,"XRDT")=""  
VAR(1,"SYN",37,"DSC")="5C5403N260.21194"  
VAR(1,"SYN",37,"TRM")="ACACIA SPINOSA RESIN"  
VAR(1,"SYN",37,"XADT")=""  
VAR(1,"SYN",37,"XRDT")=""  
VAR(1,"SYN",38,"DSC")="5C5403N260.21193"  
VAR(1,"SYN",38,"TRM")="ACACIA RUPESTRIS RESIN"  
VAR(1,"SYN",38,"XADT")=""  
VAR(1,"SYN",38,"XRDT")=""  
VAR(1,"SYN",39,"DSC")="5C5403N260.21192"  
VAR(1,"SYN",39,"TRM")="ACACIA OXYOSPRION RESIN"  
VAR(1,"SYN",39,"XADT")=""  
VAR(1,"SYN",39,"XRDT")=""  
VAR(1,"SYN",40,"DSC")="5C5403N260.21191"  
VAR(1,"SYN",40,"TRM")="ACACIA MUCILAGE"  
VAR(1,"SYN",40,"XADT")=""  
VAR(1,"SYN",40,"XRDT")=""  
VAR(1,"SYN",41,"DSC")="5C5403N260.21190"  
VAR(1,"SYN",41,"TRM")="ACACIA CUFODONTII RESIN"  
VAR(1,"SYN",41,"XADT")=""  
VAR(1,"SYN",41,"XRDT")=""  
VAR(1,"SYN",42,"DSC")="5C5403N260.21189"  
VAR(1,"SYN",42,"TRM")="ACACIA CIRCUMMARGINATA RESIN"  
VAR(1,"SYN",42,"XADT")=""  
VAR(1,"SYN",42,"XRDT")=""  
VAR(1,"SYN",43,"DSC")="5C5403N260.21188"  
VAR(1,"SYN",43,"TRM")="ACACIA ARABICA"  
VAR(1,"SYN",43,"XADT")=""  
VAR(1,"SYN",43,"XRDT")=""  
VAR(1,"SYN",44,"DSC")="5C5403N260.8759"  
VAR(1,"SYN",44,"TRM")="GUM ARABIC"  
VAR(1,"SYN",44,"XADT")=""  
VAR(1,"SYN",44,"XRDT")=""  
VAR(1,"SYN",45,"DSC")="5C5403N260.8758"  
VAR(1,"SYN",45,"TRM")="GUM ACACIA"  
VAR(1,"SYN",45,"XADT")=""  
VAR(1,"SYN",45,"XRDT")=""  
VAR(1,"SYN",46,"DSC")="5C5403N260.8757"  
VAR(1,"SYN",46,"TRM")="ACACIA VEREK RESIN"  
VAR(1,"SYN",46,"XADT")=""  
VAR(1,"SYN",46,"XRDT")=""  
VAR(1,"SYN",47,"DSC")="5C5403N260.8756"  
VAR(1,"SYN",47,"TRM")="ACACIA SENEGAL RESIN"  
VAR(1,"SYN",47,"XADT")=""  
VAR(1,"SYN",47,"XRDT")=""  
VAR(1,"SYN",48,"DSC")="5C5403N260.8755"
```

```

VAR(1,"SYN",48,"TRM")="ACACIA GUM"
VAR(1,"SYN",48,"XADT")=""
VAR(1,"SYN",48,"XRDT")=""
VAR(1,"XADT")=""
VAR(1,"XRDT")=""
>

```

Figure A-33: Description ID detail – UNII codeset

A.13 \$\$CONC^BSTSAPI

The following example shows a sample \$\$CONC API call:

```

>W $$CONC^BSTSAPI(314903002)
711739010^Type II diabetes mellitus with arthropathy
(disorder)^459310018^Type 2
diabetes mellitus with arthropathy^E11.618^^0^0^Chronic^^
>

```

Figure A-34: Sample \$\$CONC API call 1

The following example shows a sample \$\$CONC API call with no mapping parameters passed in:

```

>W $$CONC^BSTSAPI(48466003)
786037010^Fracture of vault of skull (disorder)^80749019^Fracture of vault
of sk
ull^ZZZ.999^^0^0^^RDN^Delayed|28087009;NL Union|717128007;Nonunion|33080003
>

```

Figure A-35: Sample \$\$CONC API call 2

The following example shows the same \$\$CONC API call, this time with mapping parameter information passed in (which cause the ICD mapping that gets returned to change):

```

>W $$CONC^BSTSAPI("48466003^^^EPI=303350001;HEAL=Delayed")
786037010^Fracture of vault of skull (disorder)^80749019^Fracture of vault
of skull^S02.0XXD^^0^0^^RDN^Delayed|28087009;NL
Union|717128007;Nonunion|33080003
>

```

Figure A-36: Sample \$\$CONC API call 3

A.14 \$\$DESC^BSTSAPI

The following example shows a sample \$\$DESC call with no mapping parameters passed in:

```

>W $$DESC^BSTSAPI(80749019)
48466003^Fracture of vault of skull^ZZZ.999^^0^0^^RDN^Delayed|28087009;NL
Union|717128007;Nonunion|33080003

```

```
>
```

Figure A-37: Description ID detail – no mapping parameters passed in

The following example shows the same \$\$DESC call, this time with mapping information passed in:

```
>W $$DESC^BSTSAPI ("80749019^^^^^EPI=303350001;HEAL=Delayed")
48466003^Fracture of vault of skull^S02.0XXD^^0^0^^RDN^Delayed|28087009;NL
Union
|717128007;Nonunion|33080003
>
```

Figure A-38: Description ID detail – no mapping parameters passed in

A.15 \$\$VSBTRMF^BSTSAPI

The following example will return whether a supplied term is in a particular subset (using a local cache lookup). The result is returned as the returned value of the function call:

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

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

Figure A-39: Supplied terms validation in subset – function call

A.16 \$\$DILKP^BSTSAPI

The following example shows how to look up the RxNorm for a given NDC number (using 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"
>
```

Figure A-40: ICD2SMD API call

The following example shows how to look up the RxNorm for a given NDC number (using 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"

>
```

Figure A-41: RxNorm for an NDC Number

The following example shows how to look up the RxNorm for a given VUID number (using 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"

>
```

Figure A-42: RxNorm for a VUID Number

A.17 \$\$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 (using a local cache lookup):

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

Figure A-43: SNOMED CT for GMRA Signs Symptoms – local cache

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^^
```

```
>
```

Figure A-44: SNOMED CT for GMRA Signs Symptoms – remote DTS lookup

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

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

Figure A-45: SNOMED CT for IHS Med Routine

A.18 \$\$DI2RX^BSTSAPI

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

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

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

Figure A-46: RxNorm mapping for NDC value

A.19 \$\$I10ADV^BSTSAPI

The following example shows how formatted ICD-10 mapping advice can be returned for a sample Concept Id (using a local cache lookup):

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

>w $$I10ADV^BSTSAPI (OUT,IN)
1
>ZW @OUT
VAR(1)="Rule #1 Target Code: G93.6"
VAR(2)="ALWAYS G93.6"
VAR(3)=" "
VAR(4)="Rule #2 Target Code: P11.0"
VAR(5)="IF CEREBRAL EDEMA DUE TO BIRTH INJURY CHOOSE P11.0"
VAR(6)=" "
VAR(7)="Rule #3 Target Code: S01.80X?"
VAR(8)="IF TRAUMATIC CEREBRAL EDEMA WITH OPEN INTRACRANIAL WOUND CHOOSE
S01.80X?"
VAR(9)="EPISODE OF CARE INFORMATION NEEDED"
VAR(10)="POSSIBLE REQUIREMENT FOR AN EXTERNAL CAUSE CODE"
VAR(11)=" "
VAR(12)="Rule #4 Target Code: S06.1X0?"
VAR(13)="IF TRAUMATIC CEREBRAL EDEMA CHOOSE S06.1X0?"
VAR(14)="CONSIDER ADDITIONAL CODE TO IDENTIFY SPECIFIC CONDITION OR
DISEASE"
VAR(15)="EPISODE OF CARE INFORMATION NEEDED"
```

```

VAR(16)="POSSIBLE REQUIREMENT FOR AN EXTERNAL CAUSE CODE"
VAR(17)=" "
VAR(18)="Rule #5   Target Code: S06.1X0?"
VAR(19)="IF TRAUMATIC CEREBRAL EDEMA WITH OPEN INTRACRANIAL WOUND CHOOSE
S06.1X0?"
VAR(20)="EPISODE OF CARE INFORMATION NEEDED"
VAR(21)="POSSIBLE REQUIREMENT FOR AN EXTERNAL CAUSE CODE"
VAR(22)=" "
VAR(23)="Rule #6   Target Code: S06.1X0?"
VAR(24)="IF TRAUMATIC CEREBRAL EDEMA WITHOUT OPEN INTRACRANIAL WOUND CHOOSE
S06.1X0?"
VAR(25)="EPISODE OF CARE INFORMATION NEEDED"
VAR(26)="POSSIBLE REQUIREMENT FOR AN EXTERNAL CAUSE CODE"
VAR(27)=" "
VAR(28)="Rule #7   Target Code: N/A"
VAR(29)="MAP SOURCE CONCEPT CANNOT BE CLASSIFIED WITH AVAILABLE DATA"
>

```

Figure A-47: ICD-10 mapping advice for a sample Concept Id

A.20 EQUIV^BSTSAPI

The following example shows equivalent concepts with laterality can be returned for a sample Concept Id (using a local cache lookup). In this example ‘Acute otitis media’ with a laterality of Left is passed in. Returned is an exact match on it and ‘Acute left otitis media’ and a related match on ‘Acute otitis media’:

```

>D EQUIV^BSTSAPI("VAR","3110003^272741003|7771000")

>ZW VAR
VAR(1)="3110003^272741003|7771000^1^1"
VAR(2)="3110003^^0^"
VAR(3)="194288009^^1^"

```

Figure A-48: Lateralized equivalent concepts for a sample Concept Id

In this example, ‘Acute otitis media’ with no laterality is passed in. Returned is an exact match on the passed in concept as well as related matches on ‘Acute bilateral otitis media’, ‘Acute otitis media, bilateral’, ‘Acute left otitis media’, ‘Acute otitis media, left’, ‘Acute right otitis media’ and ‘Acute otitis media, right’:

```

>D EQUIV^BSTSAPI("VAR","3110003^")

>ZW VAR
VAR(1)="3110003^^1^0"
VAR(2)="194290005^^0^"
VAR(3)="3110003^272741003|51440002^0"
VAR(4)="194288009^^0^"
VAR(5)="3110003^272741003|7771000^0"
VAR(6)="194289001^^0^"
VAR(7)="3110003^272741003|24028007^0"

```

Figure A-49: Lateralized equivalent concepts for a sample Concept Id

In this example 'Acute left otitis media' is passed in. Returned is an exact match on it and 'Acute otitis media, left' and a related match on 'Acute otitis media':

```
>D EQUIV^BSTSAPI("VAR", "194288009")

>ZW VAR
VAR(1)="194288009^^1^1"
VAR(2)="3110003^272741003|7771000^1^"
VAR(3)="3110003^^0^"

>
```

Figure A-50: Lateralized equivalent concepts for a sample Concept Id

A.21 RCONC^BSTSAPI

The following example shows an exact replacement match for a passed in retired concept:

```
>D RCONC^BSTSAPI(495003,36,.RET)

>ZW RET
RET="715052003^Disease caused by Capripoxvirus^3301304017^R"

>
```

Figure A-51: Exact replacement match for a passed in retired concept

A.22 RTERM^BSTSAPI

The following example shows an exact (or possible) replacement matching term (or terms) and concept (or concepts) for a passed in retired term:

```
>D RTERM^BSTSAPI(1908012,36,.RET)

>ZW RET
RET="3301304017^Disease caused by Capripoxvirus^715052003"

>
```

Figure A-52: Exact (or possible) replacement matching term and concept for a passed in retired term

A.23 \$\$CVPARM^BSTSMAP1

The following example shows how the desired display term (and not the preferred term) of a concept can be determined. In this case, rather than displaying "Right and left for 51440002, the desired term of 'Bilateral' is returned:

```
>W $$CVPARM^BSTSMAP1 ("LAT", 51440002)
Bilateral
```

Figure A-53: Desired term display

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 used ICD-9 for coding through September 30, 2015 and transitioned to using ICD-10 on October 1, 2015.

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

Acronym	Term Definition
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
KIDS	Kernel Installation and Distribution System
NDC	National Drug Code
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
UI	User Interface
UNII	Unique Ingredient Identifier
VUID	VA Unique Identifier
XML	Extensible Markup Language

Contact Information

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Email: itsupport@ihs.gov