

## SNOMED CT General Dentistry Diagnostic refset package Release Notes - January 2017

Date	20170131
Document Version	1.0
Release Status	PRODUCTION

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## 1 Introduction

The General Dentistry set of diagnostic terms is designed to provide dentistry with a relatively easy to implement set of terms that covers the vast majority of care provided in the dental field. It does not attempt to meet the needs of dental sub-specialties but may prove to do so for a significant amount of the care provided by these specialists.

This document provides information about the General Dentistry diagnostic refset package. It does not include a discussion or recommendation regarding the broader set of all SNOMED CT terms that are related to dentistry.



## 2 Background

With few exceptions, the dental profession has rarely used or recorded in any structured way diagnostic terms. While dentists may document a diagnosis or rationale for treatment in their clinical or progress notes, identifying the treatment provided continues to be the area most frequently documented in a structured form. This may be due to requirements for reimbursement purposes.

### 2.1 Scope

The purpose of the refset is twofold:

- 1 - it is designed to identify a set of frequently used diagnostic related terms for general dentistry (GD). As dental clinicians only infrequently use structured terms (whether while being educated or after entering clinical practice) for diagnosis, a simple set may allow for better understanding of the use of dental diagnostic codes.
- 2 - a small set may allow Electronic Dental Record (EDR) vendors and the dental payer community to more quickly and inexpensively implement tools that will allow for their use.

### 2.2 Use cases:

Data entry- Direct entry of SNOMED CT concepts using the GD term set

During a patient encounter, the dental clinician identifies a problem or need. The clinician then enters the problem/disorder/finding into a "diagnosis" field and the EDR then provides a list of the most frequent SNOMED CT terms that the clinician can then use to select the best match from the GD term set. Alternately, a set of "pick lists" could be used that would take a clinician through a hierarchy of one to several different levels that would result in the best possible match for the identified condition.

Referral/Transfer of care

A general dentist may wish to refer the patient to a specialist colleague. The general dentist would enter the information regarding the problem/disorder/finding using a SNOMED CT term from the GD term set. An HL7 message is then constructed containing the identified SNOMED CT concepts from the GD term set. This would allow the specialist to have the information and possibly differential diagnosis from the general dentist. This should reduce confusion and hopefully save the patient some time and reduce repetitive services.

Constraint of terminology for population and sub-population analysis

Whilst one can make a compelling case for a more granular and therefore larger term set, the infrequent use of terms to date in dentistry potentially limit its value until dentists and other dental clinicians better understand the use of, purpose of, and proper identification of diagnostic concepts.

Dentistry has some general disease categories. Dental caries, gingival diseases including periodontal, and endodontic diseases account for the vast majority of treatment procedures provided by dentists when treating diseases. Further, it will take dentistry some time to get to the point where virtually all dental visits result in the assignment of a rationale or structured term for the visit.

Initially, in order to provide some level of data aggregation, less granularity may allow for the development of decisions support tools (CDS) and other forms of evidenced based tools for assisting in the determination of care plans.



### 3 Motivation

Recognizing the value of identifying a diagnosis and relating it to treatment for the improvement of outcomes and for development of decision support tools (CDS) by others in the medical profession, a group of members of the IHTSDO Dentistry SIG located in the United States began work on identifying a set of diagnostic terms that had the potential for being easily understood by all dental clinicians, easy to implement for electronic records system vendors, adaptable to current clinical workflows, and has the potential to support the development of CDS tools as well as relate diagnosis to treatment and even outcomes of care.

Over a period of approximately one year and with the cooperation of the payer community in the United States and two organisations that have been using diagnostic coding in dentistry for a significant period of time, the US effort resulted in a preliminary set of SNOMED CT terms that has been reviewed by the Dentistry SIG to ensure international relevance. All comments received prior to the April 2016 meeting of the Dentistry SIG in London were positive. At this meeting, the Dentistry SIG recommended that the IHTSDO move forward with further development to make this work an official refset of SNOMED CT. In parallel, the SNOMED CT editors worked to include required new concepts in SNOMED CT so that all was completed for the July 2016 International release.



## 4 Content

The General Dentistry diagnostic refset (GD refset) primarily contains SNOMED CT findings. Most of these findings are disorders, but some of the terms are other types of findings dental clinicians may document as the rationale for providing a specific treatment or sequence of care. Further, the set includes a few attributes that allow clinicians to better define the extent of disease for the most common dental disease, caries. The entire refset consists of less than 250 terms as of March 2017.

The refset also includes terms that allow a dental clinician to provide a rationale for patients seeking preventive services that have no chief complaint. In many countries, dentistry recommends periodic preventive visits that often include some limited treatments such as prophylaxis as a tool to reduce the risk of periodontal disease and obtaining radiographs as a method to potentially identify dental caries at an earlier stage, allowing for a more limited intervention.

This refset was designed using some very basic principles. It used the limited information available from sources known to be using diagnostic codes in dentistry and compared them to services actually provided. Developers also used terms already available in SNOMED CT when the term could be used to represent clearly language (interfaces) most often used within the profession in the USA and, where known, other parts of the world.



## 5 Design

### 5.1 Version

The dependent version of SNOMED CT is the January 2017 International Edition release.

### 5.2 Ownership

Whilst IHTSDO are the owners of SNOMED CT, clinical validation and ownership is provided by the IHTSDO International Dentistry SIG

### 5.3 Frequency

The Production version of the refset will be published after the January 2017 International Edition release of SNOMED CT, provided there is no feedback requiring content changes. Subsequently it will be maintained in line with each release of SNOMED CT International Edition.



## 6 Implementation

With a very limited history of implementation of any diagnostic terms in dentistry and the fact that there are numerous different electronic dental records (EDR) system vendors worldwide using different methodologies of data structuring, databases, visualization, and workflow design, it is likely that there may be several unique and functional approaches to implementation of the GD refset. Additionally, the varying payment mechanisms in different countries may have different needs and set different requirements as they become more involved in obtaining and using the data.



## 7 Obtaining the Release

The SNOMED CT General Dentistry refset is available from the IHTSDO and is maintained and updated in line with the SNOMED CT International release which is currently 6 monthly.

Access within IHTSDO member countries is provided by the Member National Release Centre in each country, via the relevant Member page. Affiliates of IHTSDO in non-member countries can access the refset through their Member Licensing and Distribution SERVICE (MLDS) account. Please contact [info@ihtsdo.org](mailto:info@ihtsdo.org) for more information if required.



## 8 Feedback

As mentioned previously, dentistry and dental clinicians only infrequently use any form of diagnostic terminology. The number of user interfaces is, therefore, very limited. Currently there has been no usability testing completed of this refset.

It is also recognized that this is not an exhaustive set of terms dental clinicians might use. It may not be suitable for dental specialists or general dentists who limit their practices to such areas as dental implants or treatment of specific conditions such as sleep apnoea. It is expected that, as adoption increases, the refset will need updating. It may also be necessary to develop refsets for the limited number of recognized dental specialties.



## 9 Technical Notes

### RF2 package format

The RF2 package convention dictates that it contains all relevant files, regardless of whether or not there is content to be included in each particular release. Therefore, the package contains a mixture of files which contain both header rows and content data, and also files that are intentionally left blank (including only a header record). The reason that these files are not removed from the package is to draw a clear distinction between:

1. ...files that have been deprecated (and therefore removed from the package completely), due to the content no longer being relevant to RF2 in this or future releases, and
2. ...files that just happen to contain no data in this particular release (and are therefore included in the package but left blank, with only a header record), but are still relevant to RF2, and could therefore potentially contain data in future releases.

This allows users to easily distinguish between files that have purposefully been removed or not, as otherwise if files in option 2 above were left out of the package it could be interpreted as an error, rather than an intentional lack of content in that release.