

Briefing Note for the Member Forum, the Content Managers Advisory Group, and the Microbiology Project Group 02 November 2022

Changes to 415360003 | Severe acute respiratory syndrome-related coronavirus (organism) | and subtypes

Purpose

To advise the Member Forum (MF), the Content Managers Advisory Group (CMAG), and the Microbiology Project Group about the planned changes to 415360003 | Severe acute respiratory syndrome-related coronavirus (organism) and subtypes. In addition, this note has been provided to seek information on the usage of this content and to establish the likely impact of changes to content.

Background

An inquiry by the National Library of Medicine (NLM) regarding the proper location of Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in the organism hierarchy resulted in the review of the parent concept, 415360003 | Severe acute respiratory syndrome-related coronavirus (organism) |. It was determined that the terming and placement of this concept is confusing in that it can be used to represent two separate concepts: 1) “Severe acute respiratory syndrome (SARS) coronavirus, the strain that caused the 2002-2004 outbreak of severe acute respiratory syndrome (SARS), as well as 2) “Severe acute respiratory syndrome-related coronavirus”, the parent species.

Issue Analysis

- Terming analysis:
 - FSN: “Severe acute respiratory syndrome-related coronavirus” - **Represents the species:** https://ictv.global/taxonomy/taxondetails?taxnode_id=202101868
 - PT: SARS coronavirus - **Represents the strain**
 - Synonyms:
 - Severe acute respiratory syndrome-related coronavirus - **Same as FSN - Represents the species**

- SARS - Represents the viral respiratory disease caused by the strain - needs to be inactivated
- SARS virus - Likely represents the strain - Needs to be inactivated
- Severe acute respiratory syndrome (SARS) coronavirus - Represents the strain
- Severe acute respiratory syndrome coronavirus - Represents the strain
- SARS-CoV - This acronym is a source of ambiguity, as, depending on the reference and context, it can represent either the species or the strain:
 - This acronym is generally used to represent the strain in official resources:
 - ICTV: <https://ictv.global/news/news-2020>
 - CDC: <https://www.cdc.gov/sars/index.html>
 - WHO: <https://www.who.int/publications/i/item/who-r-d-blueprint-novel-coronavirus-prospects-for-evaluating-cross-reactivity-of-ncov-with-sars-cov>
 - However, there are references indicating that, once SARS-CoV-2 emerged, "SARS-CoV" became known as "SARS-CoV-1":
 - https://www.uptodate.com/contents/severe-acute-respiratory-syndrome-sars?search=SARS&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1
 - [https://www.who.int/news/item/03-02-2022-2022-celebrating-70-years-of-gisrs-\(the-global-influenza-surveillance-and-response-system\)](https://www.who.int/news/item/03-02-2022-2022-celebrating-70-years-of-gisrs-(the-global-influenza-surveillance-and-response-system))
 - <https://sciencemediahub.eu/2020/04/23/the-differences-between-sars-cov-1-and-sars-cov-2/>
- During this analysis, the value of 415360003 | Severe acute respiratory syndrome-related coronavirus (organism) | subtypes representing SARS coronavirus variants (140 in total) were also evaluated. It was decided that these concepts need to be inactivated for the following reasons:
 - They are related to a disease that has not been seen in many years.
 - These variants have disappeared and they are not clinically significant.
 - This approach is consistent with that of SARS-CoV-2, where the subtypes have not been added due to clinical insignificance.

Next Steps

Upon completion of impact analysis by means of this briefing note, the following changes will be implemented to resolve the content issue:

- To resolve ambiguity for 415360003 | Severe acute respiratory syndrome-related coronavirus (organism) |, this concept will be inactivated as ambiguous. Net-new concepts will be created to represent the associated strain and species.

- This option has been selected for the following reasons:
 - It is in alignment with the editorial guidelines.
 - It is in line with decisions made in similar previous cases.
 - It minimizes impact on users by giving them clear choices for replacing historical data.
- There are a total of 6 concepts (1 event, 4 disorders, and 1 procedure) that are defined by 415360003 |Severe acute respiratory syndrome-related coronavirus (organism). The modeling and terming of these concepts will be reviewed to determine the applicability of the attribute value: strain vs. species.
- Assignment of “SARS-CoV” as acronym:
 - “SARS-CoV” is still used officially by ICTV for the strain that caused the SARS outbreak in 2002-2004. The parent species will have “SARSr-CoV” as the acronym.
 - The strain will have an additional acronym of “SARS-CoV-1” for further clarity and in accordance with resources that refer to the name change.
- Modeling 840533007 |Severe acute respiratory syndrome coronavirus 2 (organism)|:
 - 840533007 |Severe acute respiratory syndrome coronavirus 2 (organism)| will be a sibling of the “Severe acute respiratory syndrome (SARS) coronavirus” strain and a subtype of the “Severe acute respiratory syndrome-related coronavirus” species.
- Current children of 415360003 |Severe acute respiratory syndrome-related coronavirus (organism)|, which represent SARS strain subtypes will be inactivated using “Outdated component” as the inactivation reason with a “Replaced by” association to the concept representing “Severe acute respiratory syndrome (SARS) coronavirus”.

Recommendations

It is recommended that MF, CMAG, and the Microbiology project give advance warning to users who may be affected by these changes. It is anticipated that this work will be completed and released in either the January or February 2023 release.

Please provide information on usage and questions on this area of work via info@snomed.org with the subject ‘Severe acute respiratory syndrome-related coronavirus’.

Approvals	Date	Name
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