

HL7 Tooling Work Group

HL7 EHR Work Group

User Guide for

**Electronic Health Record-System
Functional Model, Tool**

March 2013

Chapter Three: Managing

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4.1 Introduction

In the current version of the tool EHR-S FM release 2 is used. It is likely that in future new releases will be developed. In that development it is foreseen that modifications must be carried out on the EHR-S FM release 2. These modifications can be done with support of the EHR-S FM tool in Enterprise Architect. Possible modifications are:

- Read and search in the EHR-S FM.
- Make changes in EHR-S FM components (section, header, function, criteria).
- Add EHR-S FM components.
- Delete EHR-S FM components.

In this paragraph a description of possible modifications are described.

This paragraph is part of the package that goes with the HL7 EHR-S FM tool. What is in the package is described in chapter Overview, paragraph 1.1.4.

4.2 Read and search the EHR-S FM

The EHR-S FM tool can be used to read the content of the EHR-S FM. Because the content of the EHR-S FM is comprehensive the search functionality of Enterprise Architect (EA) can be used to search for certain headers, functions or/ and criteria.

4.2.1 Read the EHR-S FM

Read the EHR-S FM in EA should be done as follows:

- To get the content of the EHR-S FM in EA follow the instructions described in chapter 2 Import. It is possible that someone of your IT department can do that for you.
- When you open EA you will get the Start Page of EA. See figure X.1.

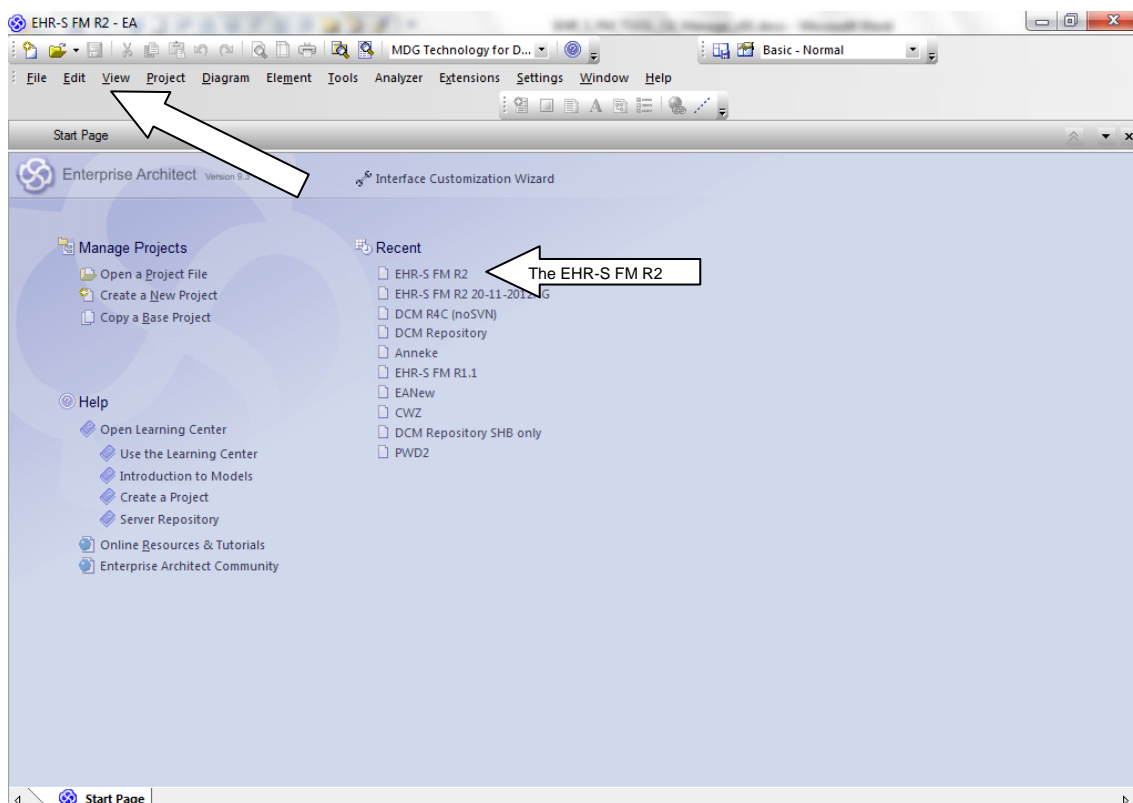


Figure X.1. The start page of EA.

- Click right on the EHR-S FM R2. When nothing appear click right on 'view' in the navigation and then on 'Project Browser'.

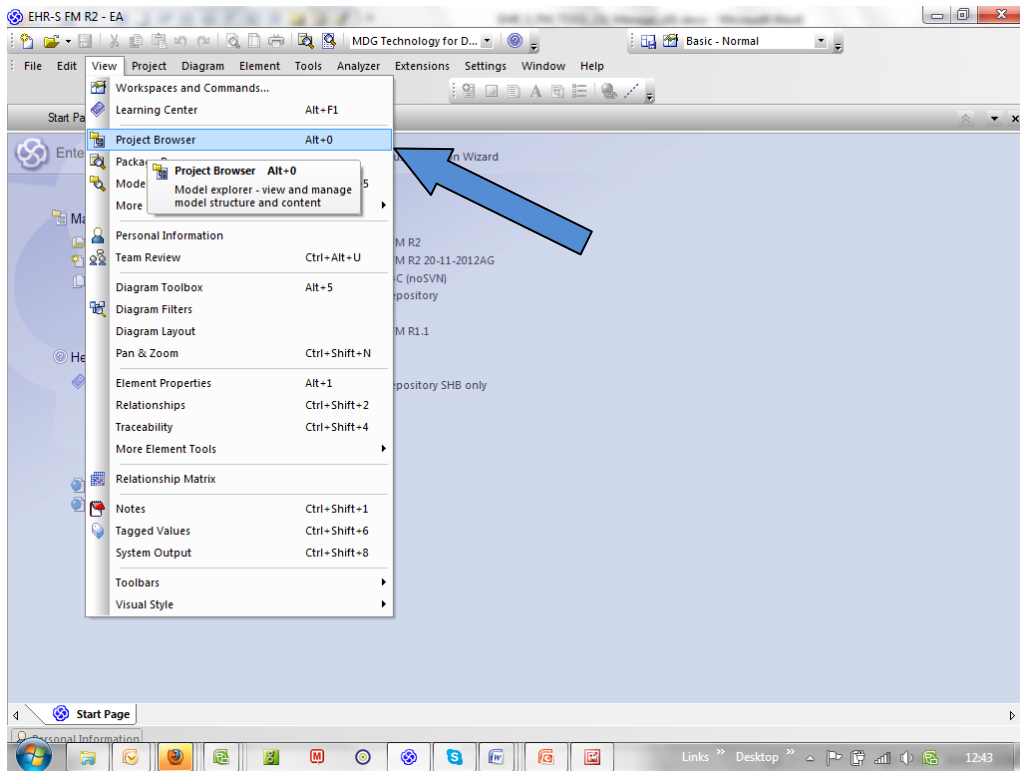


Figure X.2.

- The Project Browser will appear in EA.

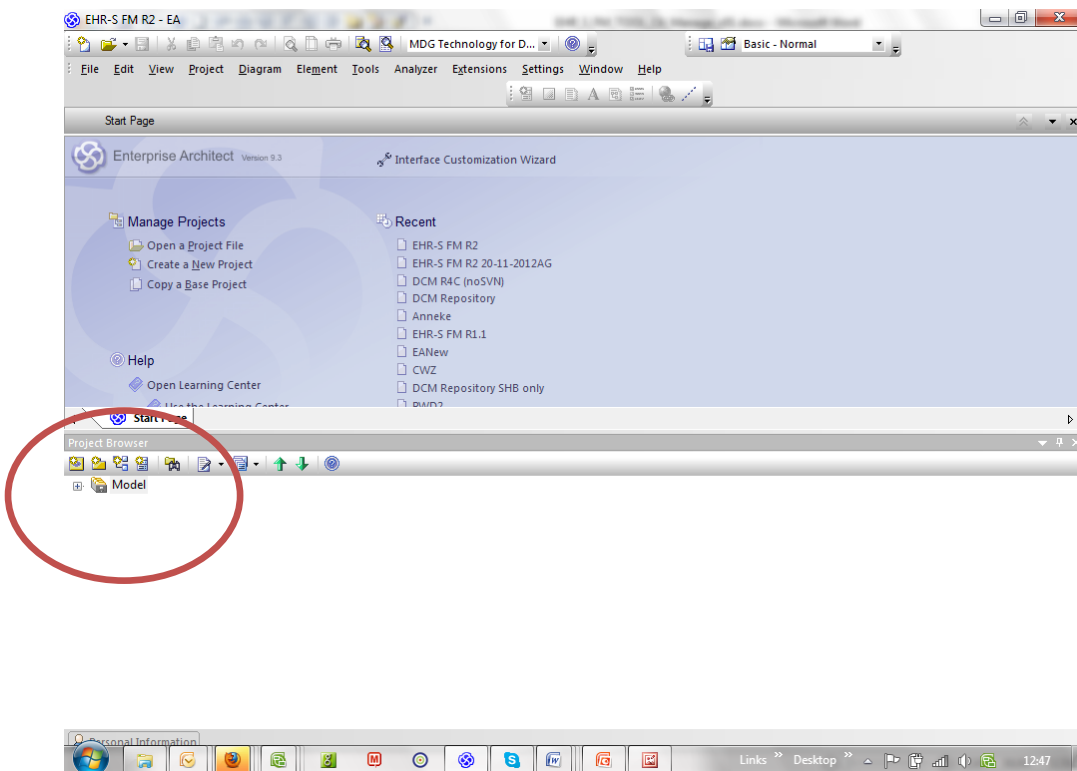


Figure X.3. The project Browser in EA.

- To see the content of EHR-S FM open the Model in the Project Browser. See figure X.4

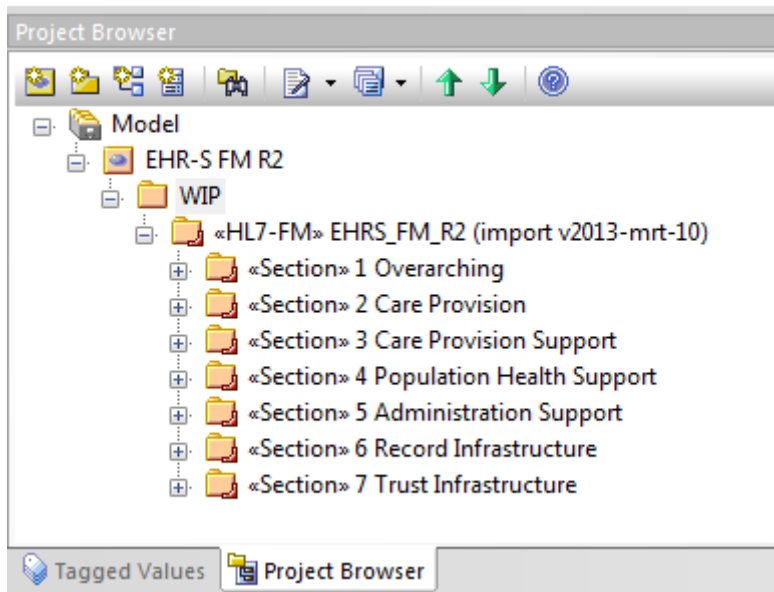


Figure X.4. The content of EHR-S FM in EA.

- Now you can browse through the content of EHR-S FM by clicking on a section, then a header, then a function. Then you will see the conformance criteria belonging to a function.

4.2.2 Search the EHR-S FM

Search the EHR-S FM in EA should be done as follows:

- Click on the top level of the EHR-S FM as shown in figure X.5.

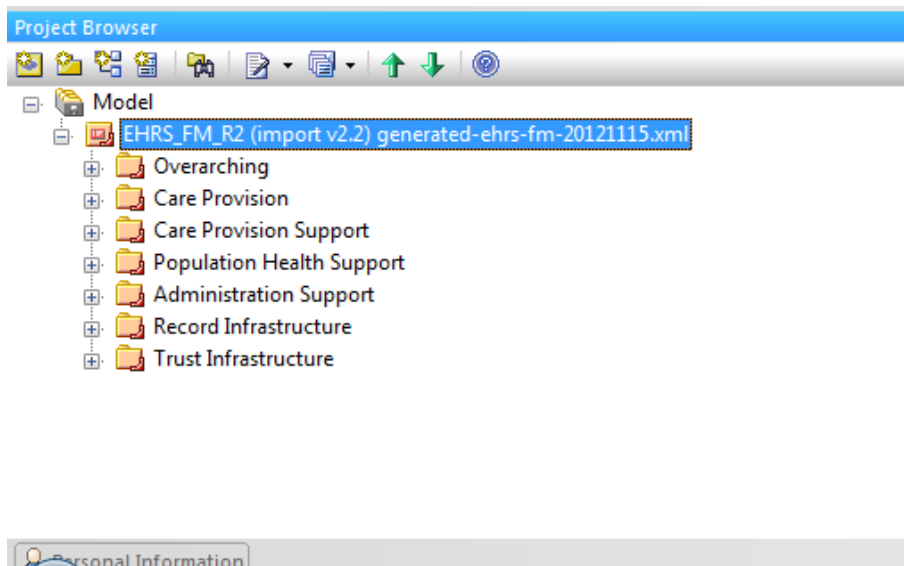


Figure X.5. The top level of the EHR-S FM in EA.

- Go to 'Edit' in the navigation of EA, and choose 'Model Search'. See figure X.6.

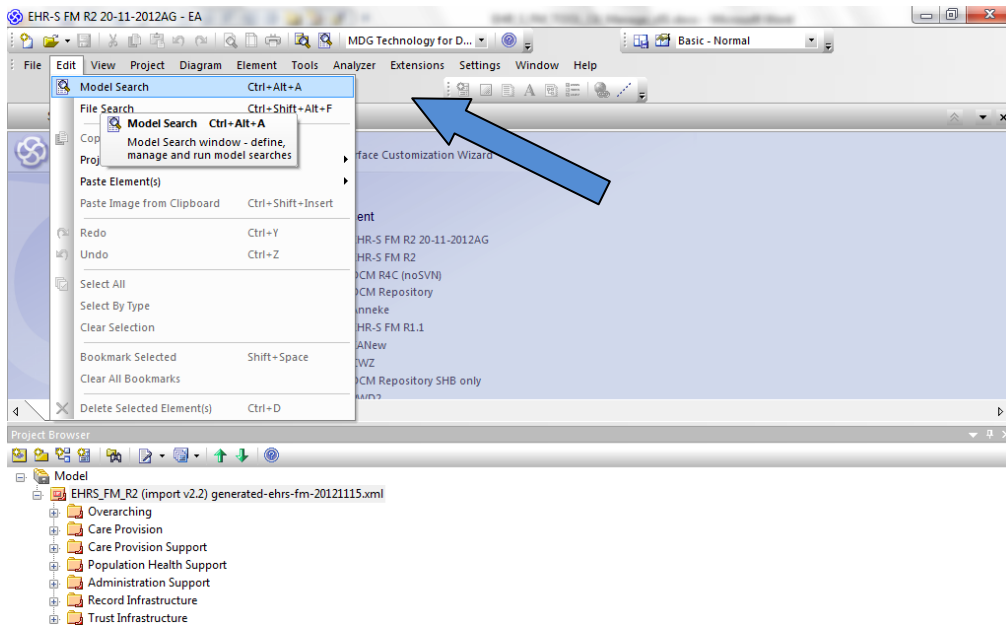


Figure X.6. Search functionality of EA.

- You will get a screen as shown in figure X.7. Know you can search the EHR-S FM by putting a keyword in the field 'Search Term'. For example 'Allergy' as shown in figure X.7.

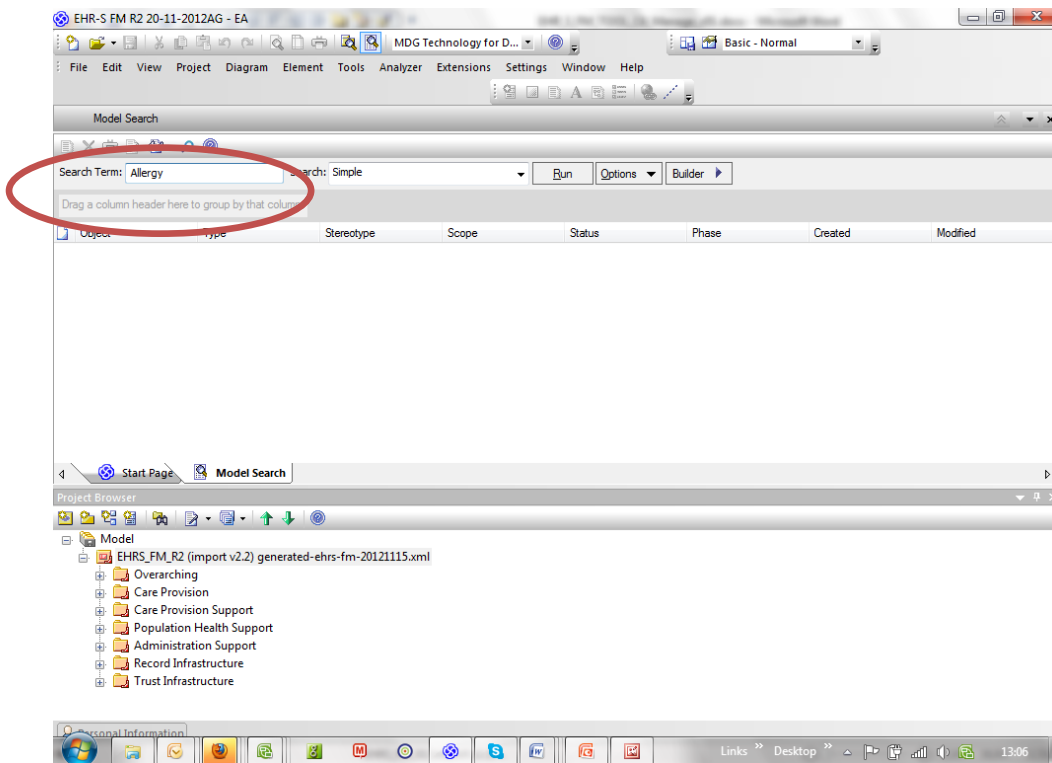


Figure X.7. The use of the search functionality in EA.

- When you do a 'Simple' search, as shown in the field 'Search', Ea will give you an overview of all the EHR-S FM components wherein the term 'Allergy' is used.

Object	Type	Stereotype	Scope	Status	Phase	Created	Modified
CP.1.1 Manage Clinical History	Feature	Header	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2 Manage Allergy, Intolerance and Adverse Reaction List	Feature	Function	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#01	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#02	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#07	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#08	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#09	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#14	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#15	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#16	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#21	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#23	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.2#25	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.1.3#19	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.4.2 Manage Medication Orders	Feature	Function	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.4.2#01	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.4.2.1 Medication Interaction and Allergy Checking	Feature	Function	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.4.2.1#01	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.4.2.1#02	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.4.2.1#03	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.6.1#08	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.6.2#04	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.6.2#09	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013
CP.9.1#01	Requirement	Criteria	Public	Proposed	1.0	10-3-2013	10-3-2013

Figure X.8. The results of a search.

4.3 Changing EHR-S FM components

The EHR-S FM in Enterprise Architect is built in a nested structure. At the top level there is a package called EHR-S FM R2. Additional information may be added in the package name, such as an import version and a date. Each of the sections is included in a nested structure, also called a package. This nesting goes further with the headers, functions and conformance criteria. See how this looks in chapter Overview, 1.3.4 EHR-S Function List Components, figure 7. Function List Example.

This paragraph will continue describing the possible changes one can make in the sections, headers, functions and conformance criteria.

4.3.1 Changes in Sections

Opening a section and changing its contents should be done as follows:

- Browse through the package until you have found the section you want to change (1). See figure X.9.

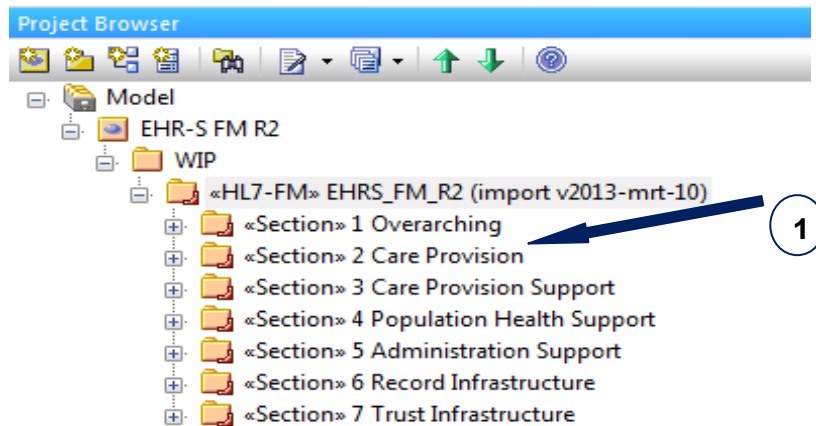


Figure X.9. The package on section level.

- Double click on the package of the section (1). You will get a dialogue as shown in figure X.10.

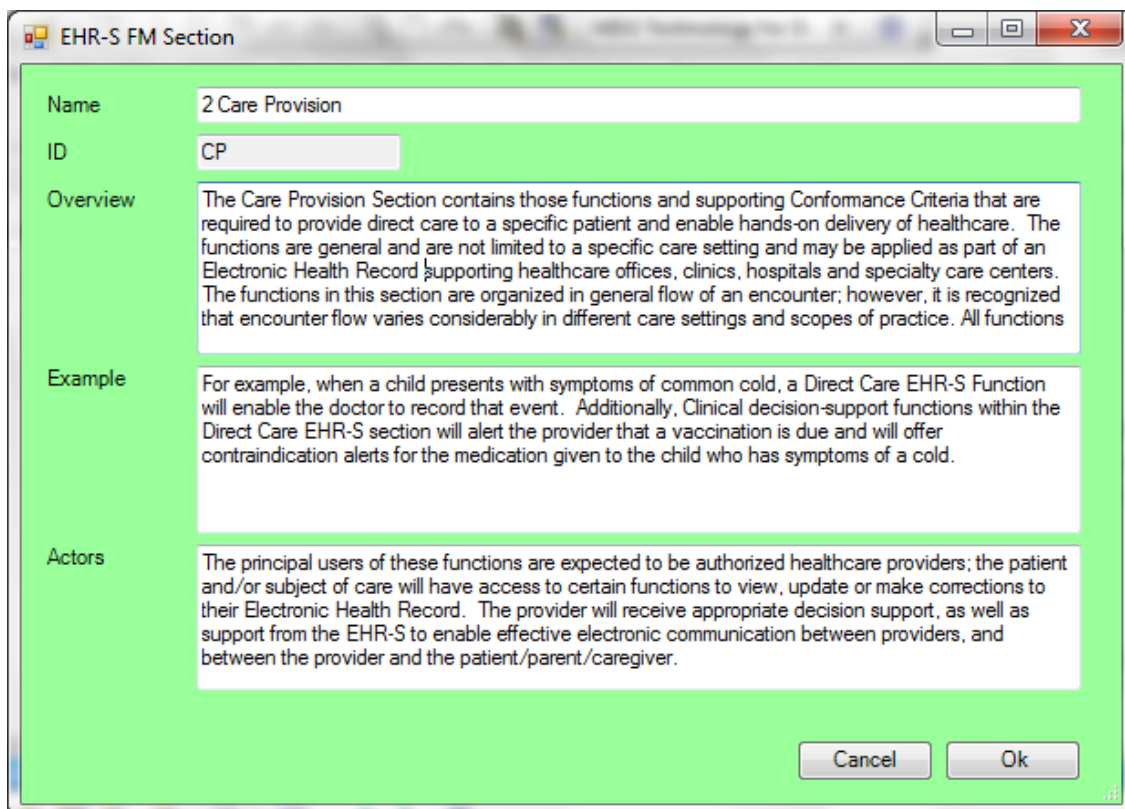


Figure X.10. The dialogue of a package on section level.

- In the Overview, Example and/or Actors changes can be made. This works as a simple text editor. Changes can be saved by clicking on OK. A description of how the Spell checker works can be found in paragraph 4.7.
- The name of the section can also be changed in the 'Name', but this is unlikely to happen in a current release.

4.3.2 Changes in Headers

Opening a header in a specific section and changing its contents should be done as follows:

- Browse through the package until you have found the section where the header (5) you want to change is in. See figure X.11.

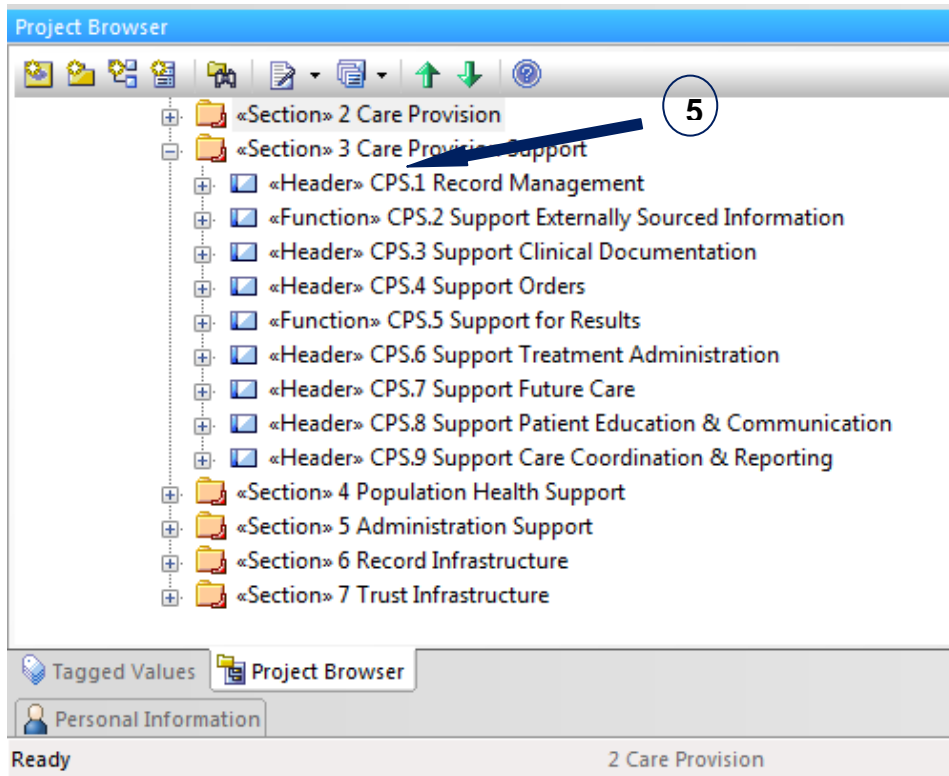


Figure X.11. The package on header level.

- Double click on the package of the header (5). You will get a dialogue as shown in figure X.12.

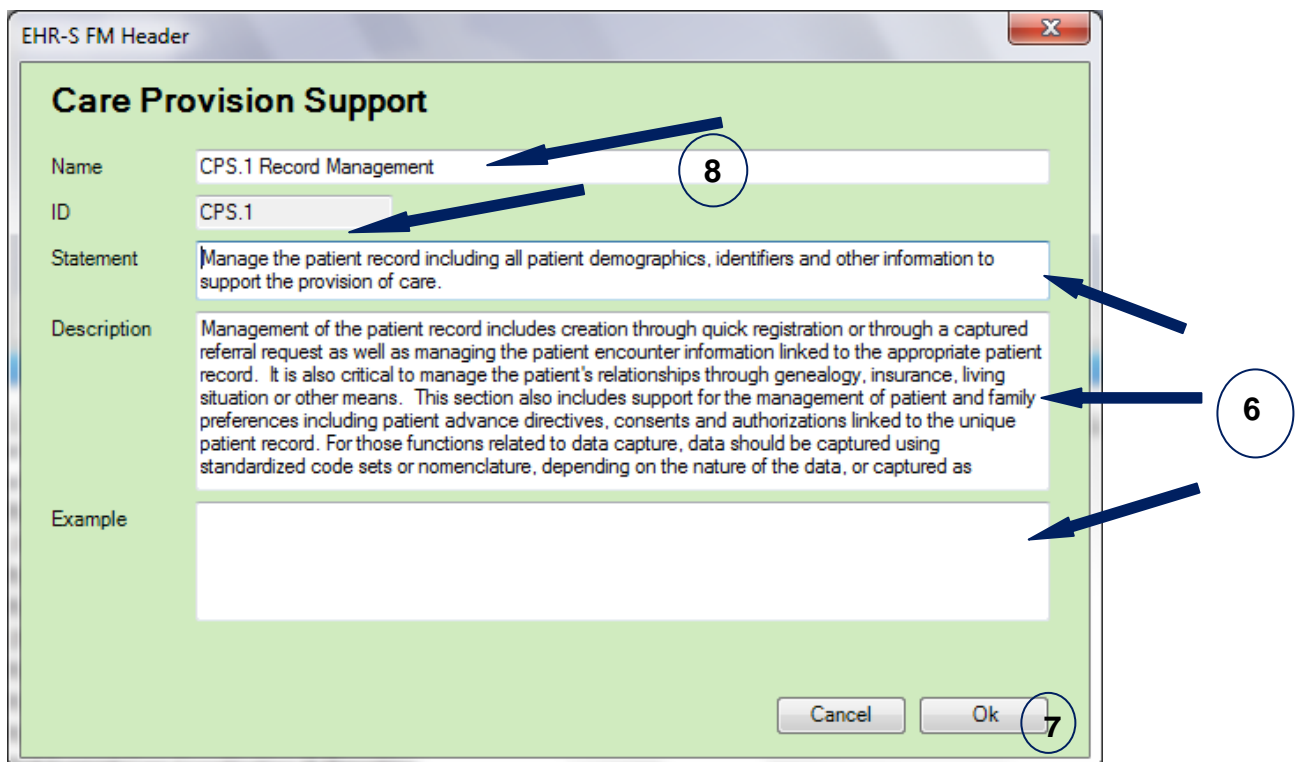


Figure X.12. The custom dialogue of a package on header level.

- The dialogue you will see has the color that goes with the section. Every section has a corresponding color.

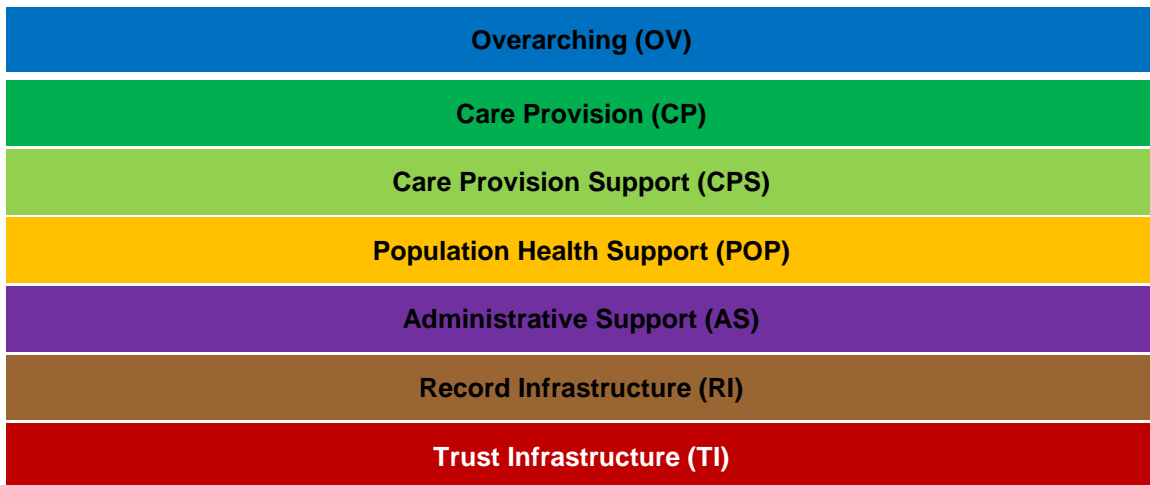


Figure X.13. The colors of the Function List Sections.

- Statement, Description and/ or Example can be changed in the dialogue (6). This works as a simple text editor. Changes can be saved during working in the dialogue by clicking on 'OK' (7).
- The name and/ or ID (8) of the header can also be changed in the 'Name field' and/ or 'ID field', but this is unlikely to happen in a current release.

4.3.3 Changes in Functions

Opening a function in a specific section and changing its contents should be done as follows:

- Browse through the package until you have found the section where the function (9) you want to change is in. See figure X.14.

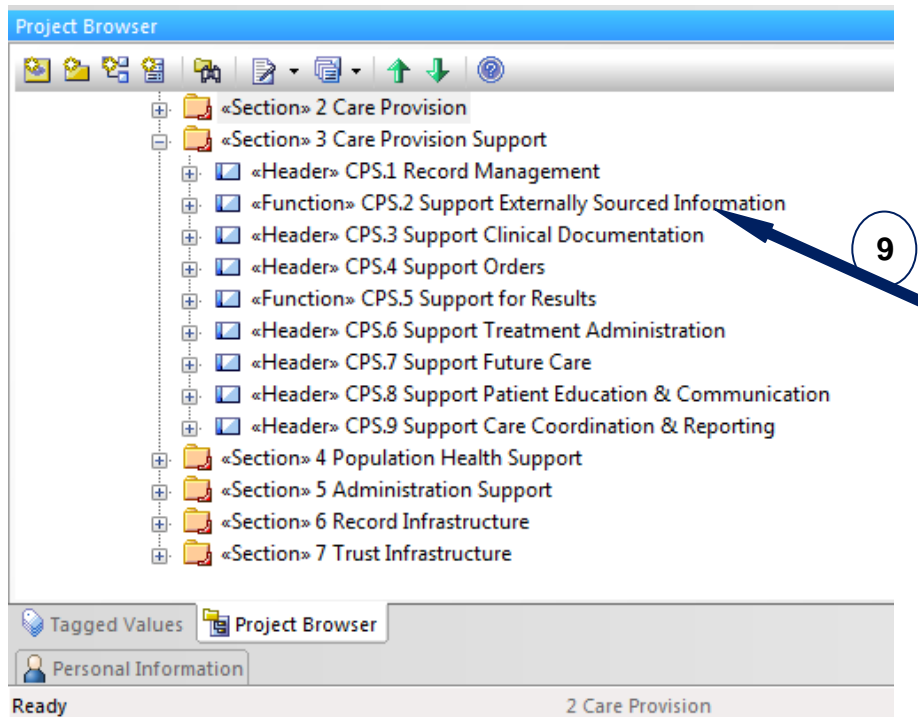


Figure X.14. The package on function level.

- Double click on the package of the header (9). You will get a dialogue as shown in figure X.15.

The image shows a dialog box titled "EHR-S FM Function" with a close button (X) in the top right corner. The dialog has a light green background and is titled "Care Provision". It contains several fields:

- Name:** CP.2 Render Externally Sourced Information
- ID:** CP.2
- Statement:** Render documentation and data that has been captured from multiple external sources.
- Description:** Documentation and data relevant to the patient record can be captured from many external sources and should be rendered appropriately alongside other information in the patient record. External sources are those outside the EHR system, including clinical, administrative, and financial information systems, other EHR systems, Personal Health Record (PHR) systems, and data received through health information exchange networks.
- Example:** (This field is currently empty)

At the bottom right of the dialog, there are two buttons: "Cancel" and "Ok".

Figure X.15. The custom dialogue of a package on function level.

- Statement, Description and/ or Example can be changed in the same way as on header level described in 4.3.2 Changes in Headers.
- The name and/ or ID of the function can also be changed in the same way as on header level described in 4.3.2 Changes in Headers, but this is unlikely to happen in a current release.

4.3.4 Changes in Conformance criteria

Opening a conformance criterion of a specific function and changing its contents should be done as follows:

- Browse through the package until you have found the specific function where the conformance criteria (10) you want to change is in. See figure X.16.

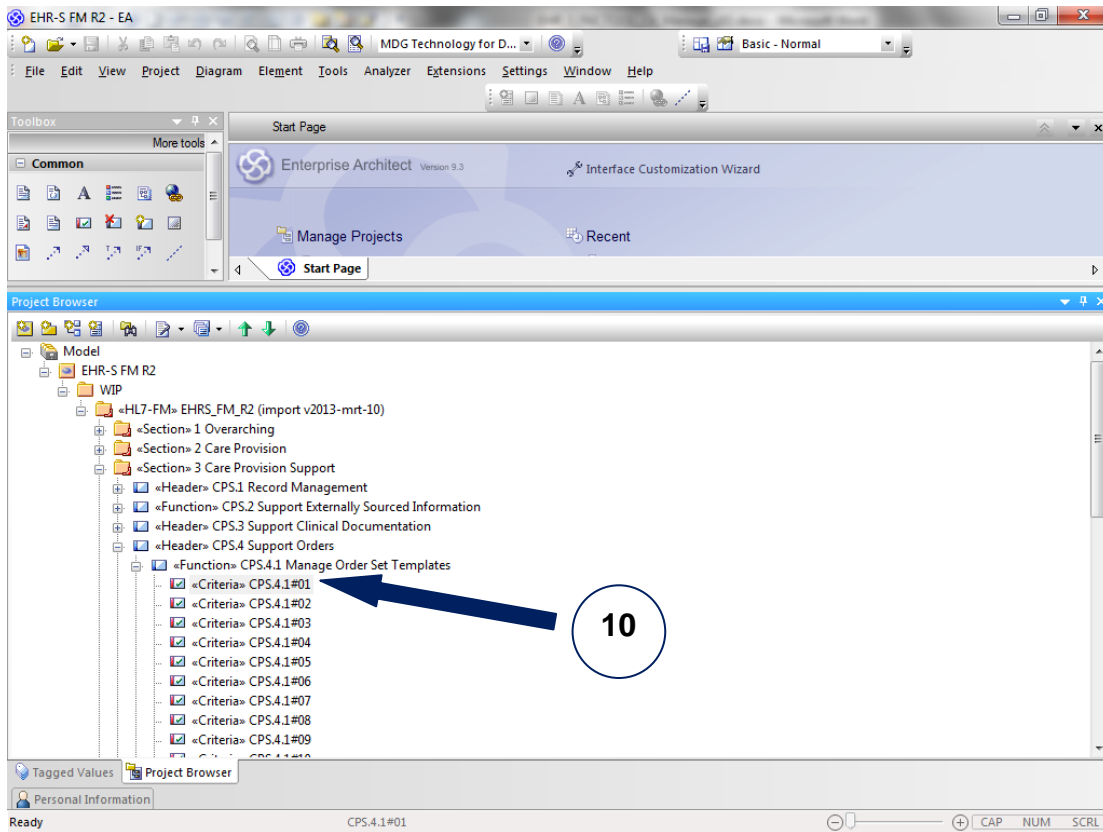


Figure X.16. A conformance criterion in a specific function.

- Double click on the conformance criterion (10). You will get a dialogue as shown in figure X.17.

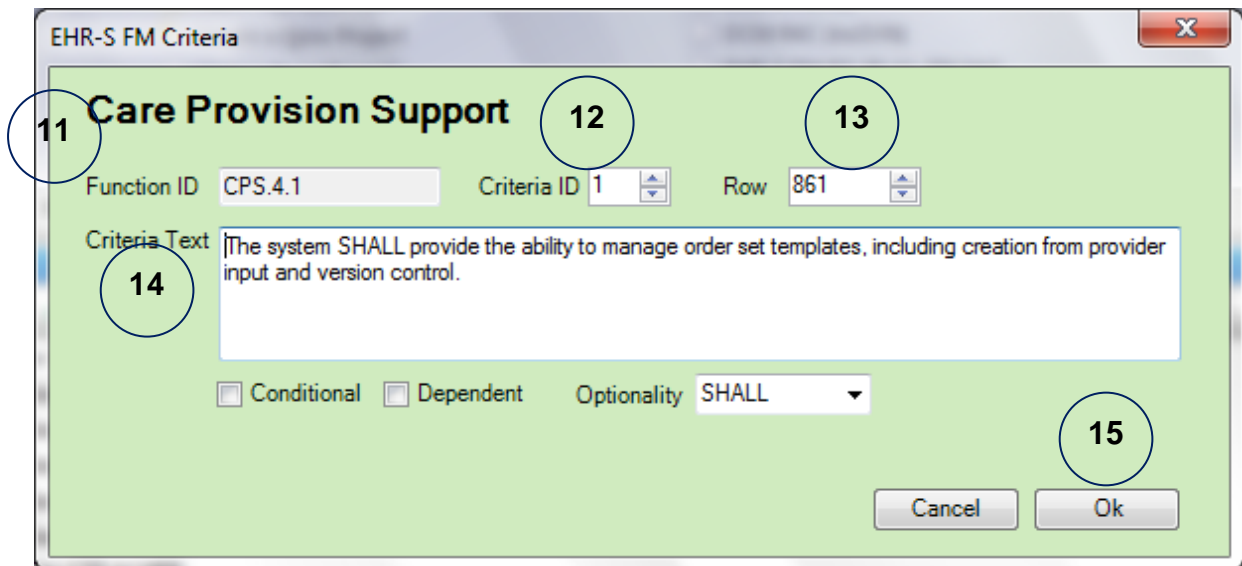


Figure X.17. the custom dialogue for a conformance criterion.

- The ID of the function where the criteria belongs to is described in the field Function ID (11).
- The ID of the conformance criteria is described in the field Criteria ID (12).
- The traceability to the master spreadsheet of the EHR-S FM R2 is shown in the field Row (13).

- The text of the conformance criteria is described in the field Criteria Text (14). This can be changed and works as a simple text editor. Changes can be saved by clicking on 'OK' (15).

4.4 Adding EHR-S FM components

This paragraph will continue describing the way new components, sections, headers, functions and/ or conformance criteria of the EHR-S FM can be add. However, this functionality is part of phase 2 of the EHR-S FM tooling project. For this functionality a toolset of Forms will be made to support the addition of EHR-S FM components.

4.5 Deleting EHR-S FM components

This paragraph will continue describing the way components, sections, headers, functions and/ or conformance criteria, of the EHR-S FM can be deleted. It is possible that sections in release 2 of the EHR-S FM can be moved to the Overarching section. If this is the case one way to do this is by deleting the whole section after moving the headers, functions and conformance criteria to the Overarching section.

4.5.1 Deleting Sections

Deleting a section in a current release is not likely, but can be done for a next release. It should be done as follows:

- In the project browser you click on the section of the EHR-S FM that you want to delete. See figure X.18.

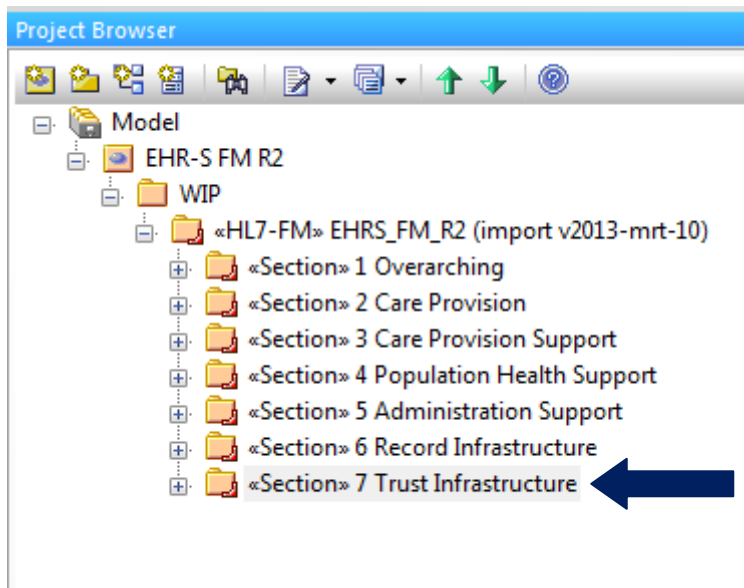


Figure X.18. Choose a section for deletion.

- Then click right with the mouse and choose delete. You will get the following question. See figure X.19

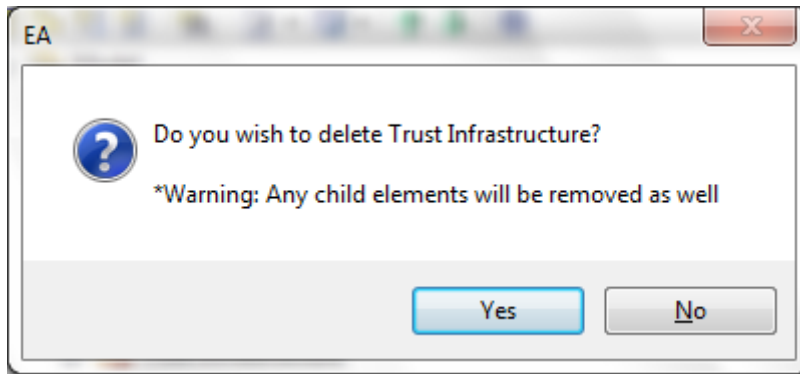


Figure X.19 Deletion of a EHR-S FM component.

- Be aware that all headers, functions and conformance criteria will be removed as well when deleting a section (as shown in figure X.19).

4.5.2 Deleting Headers, Functions and Conformance criteria

Deleting other EHR-S FM components like headers, functions and/ or conformance criteria is done in the same way as deleting a section. If a header is deleted then also the functions, as child elements of the header, will be deleted. If a function is deleted then the conformance criteria, as child elements of a function, will be deleted.

4.6 Moving EHR-S FM Components

This paragraph will continue describing the way components, sections, headers, functions and/ or conformance criteria, of the EHR-S FM can be moved. **To be done.**

4.7 Using the Spell Checker

In the EHR-S FM there is a lot of text. This text is also present in the EHR-S FM Tool. In text and/ or make changes in the text, errors in spelling occur. We are all so used to the spelling control in, for example, Windows Word that we expect to have that functionality in every software package that we use. In Enterprise Architect there is Spell Checker available. To use this follow the next steps:

- Choose Tools in the navigation. See figure X.20.
- Click on Spelling Tools (1)

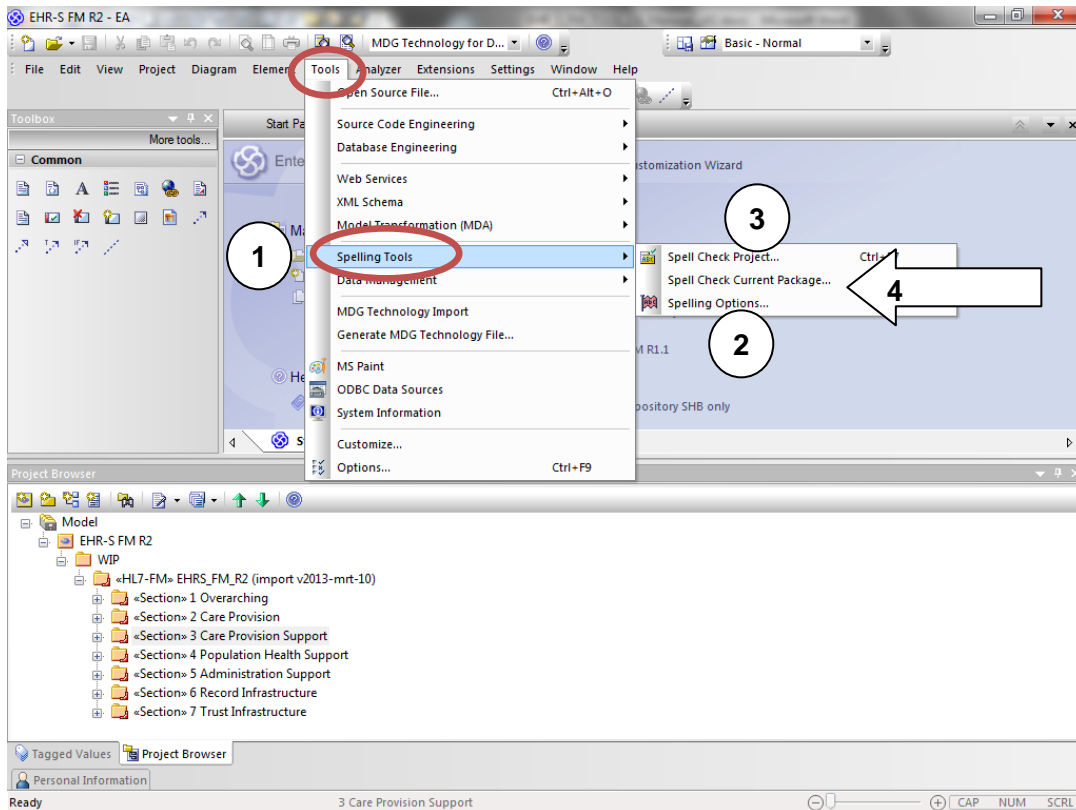


Figure X.20. Spell Checker in EA.

- Click on Spelling Options (2). Choose your language.

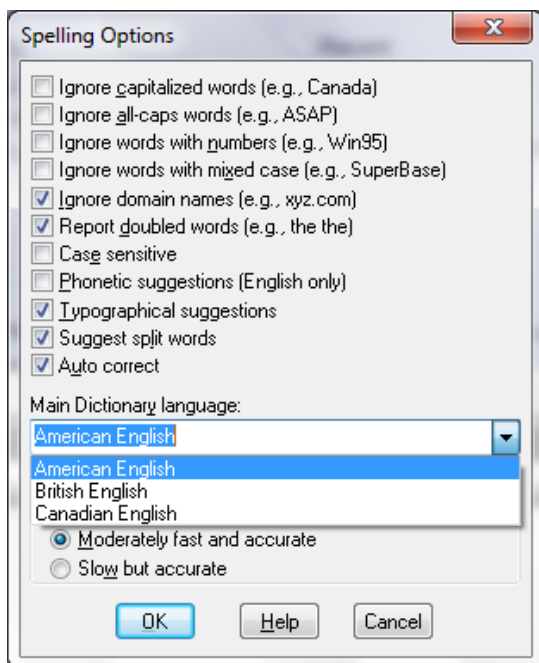


Figure X.21. Spelling options.

- By clicking the Help button (see figure X.21) the page in Help with how to use languages other than English will open. Follow the instructions. *You will need your registration key and/or order number, along with the email address you registered with.*

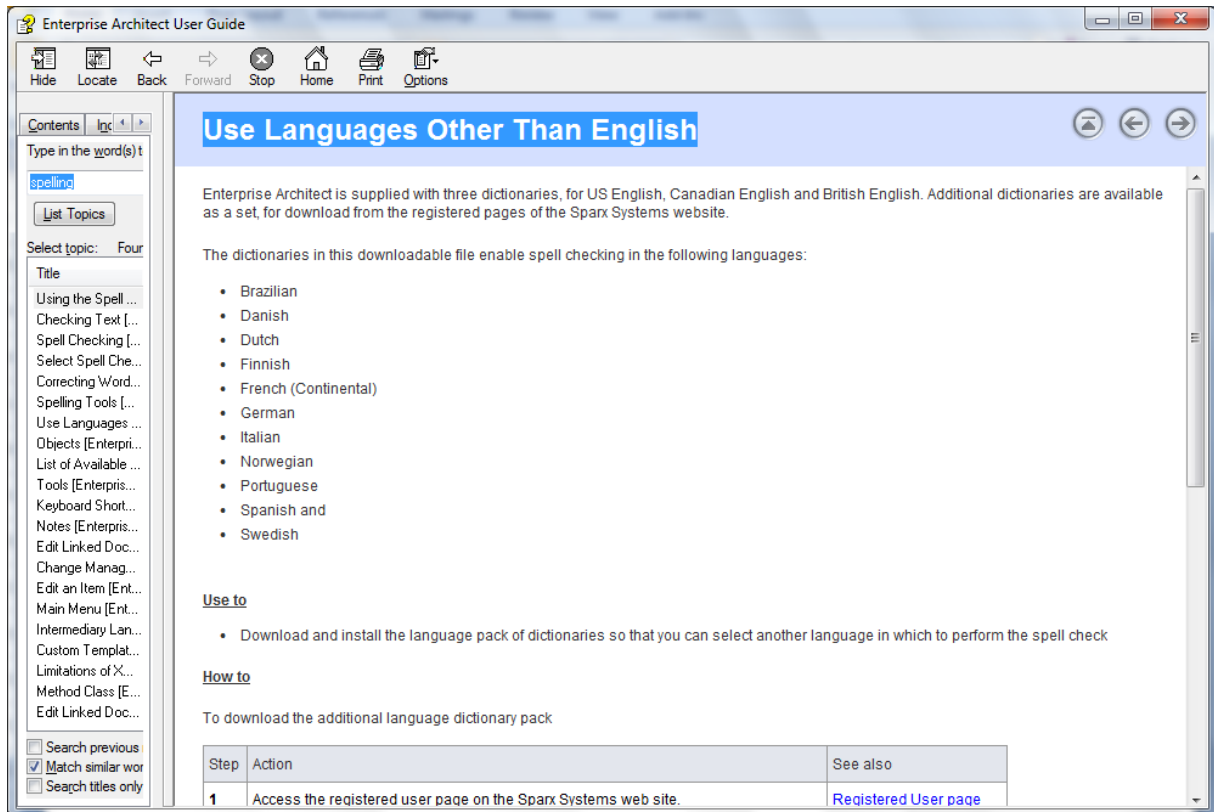


Figure X.22. Use Languages Other Than English.

- Click on Spell Check Project (3). The spell checker will check the spelling in the EHR-S FM tool project.
- Click on Spell check current package when you want to check the spelling on a certain part in the EHR-S FM tool. For example: select section Care Provision -> select tools -> select Spelling Tools (1) and select Spell check current package (4).

4.8 Traceability of the elements in EHR-S FM

The EHR-S FM Tool Release 1 contains the content of EHR-S FM R2. There are people and organizations that worked with EHR-S FM R1.1 and want to update their product to EHR-S FM R2. For example, the Public Health Functional Profile is based on the EHR-S FM R1.1 and the developers want to update their profile with the content of the EHR-S FM R2. For updating the profile, based on EHR-S FM R1.1 the traceability of the content of the EHR-S FM is necessary. This traceability can be found in the Tagged Values that belong to each element in the EHR-S FM R2.

To have a look at the Tagged Values click on the element of your choice. For example:

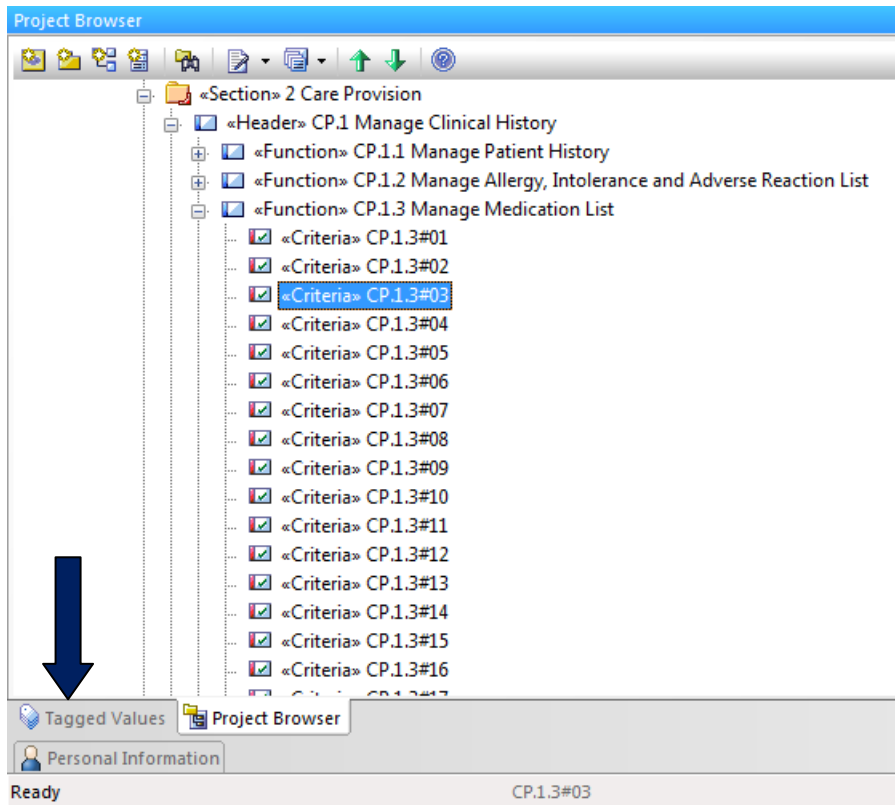


Figure X.23. Example of a element.

- Click on the tab Tagged Values as shown in figure X.23.

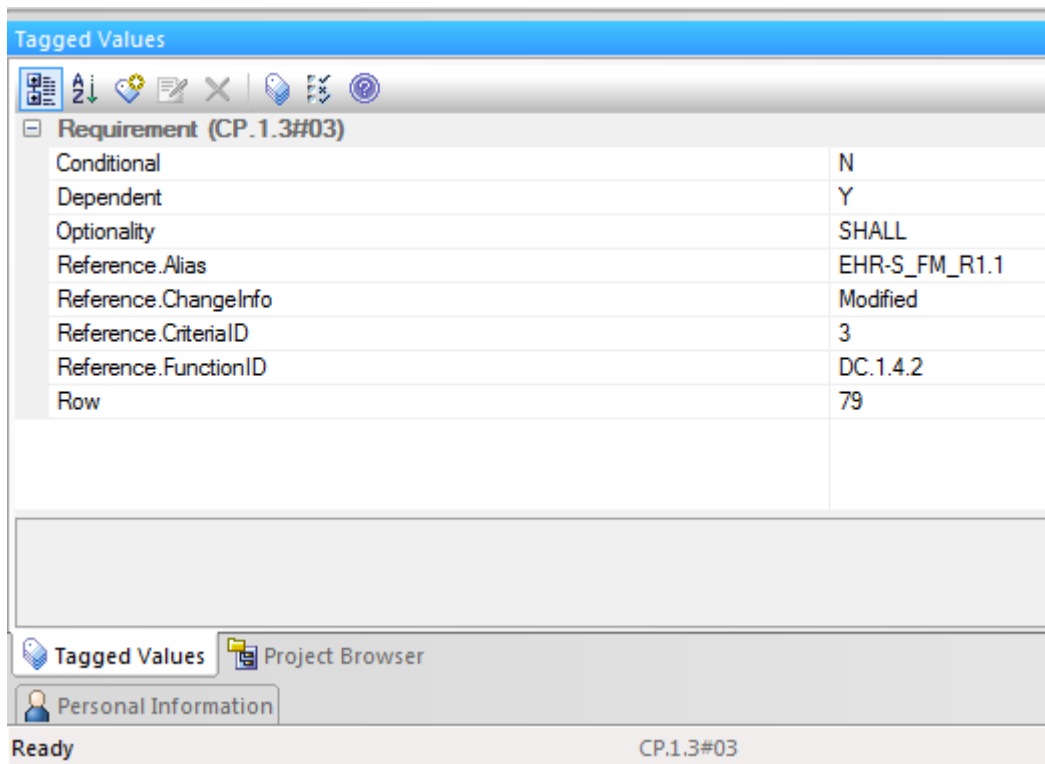


Figure X.24. Tagged Values of a element (conformance criterion).

- In the Reference.Alias you see the reference to the EHR-S FM R1.1.

- In the Reference.FunctionID you see the reference to the ID of the element as it was in the EHR-S FM R1.1.
- In Row you find the reference to the row number in the master spreadsheet.
-