Create the Functional Profile definition

The base for the new Functional Profile is the Base Model, FM or FP. The Profile Definition for the new Functional Profile is based on that Base Model.

Working on the Profile Definition it can happen that you make changes in the Base Model from which you derive the new Functional Model. To prevent that it is wise to lock the Base Model. For this you need to install the MAX extension as described in the Installation Guide named, EHR_S_FM_TOOL_C2_Installing the extension_v01

Lock/unlock the Base Model

- Click right on the package with the Base Model, select Extensions and then MAX.
- From this extension select 'Lock'.
- If you double click on an element in the Base Model, you see that the element is locked, right upper corner. See figure 1.
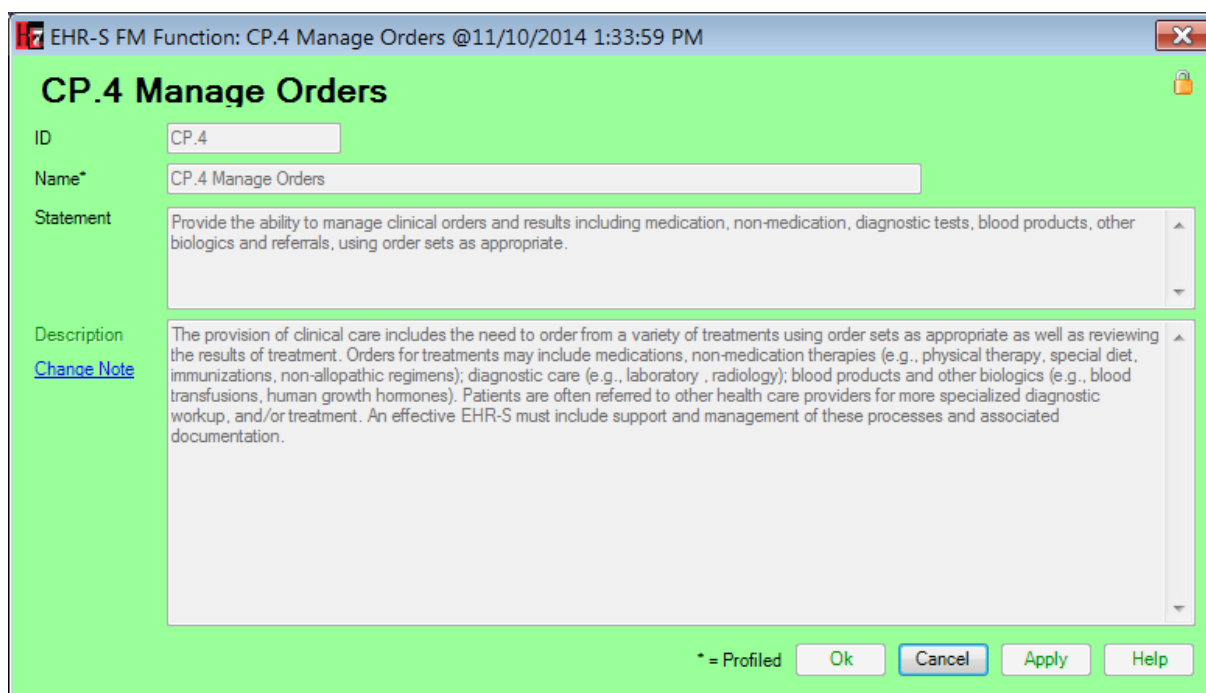

Figure 1. Locked function in the Base Model.

- To unlock the Base Model, use the same path, but select 'Unlock.

Create Profile Definition

- In the Base Model select a section and click right.
- Select Extension and HL7 FM.
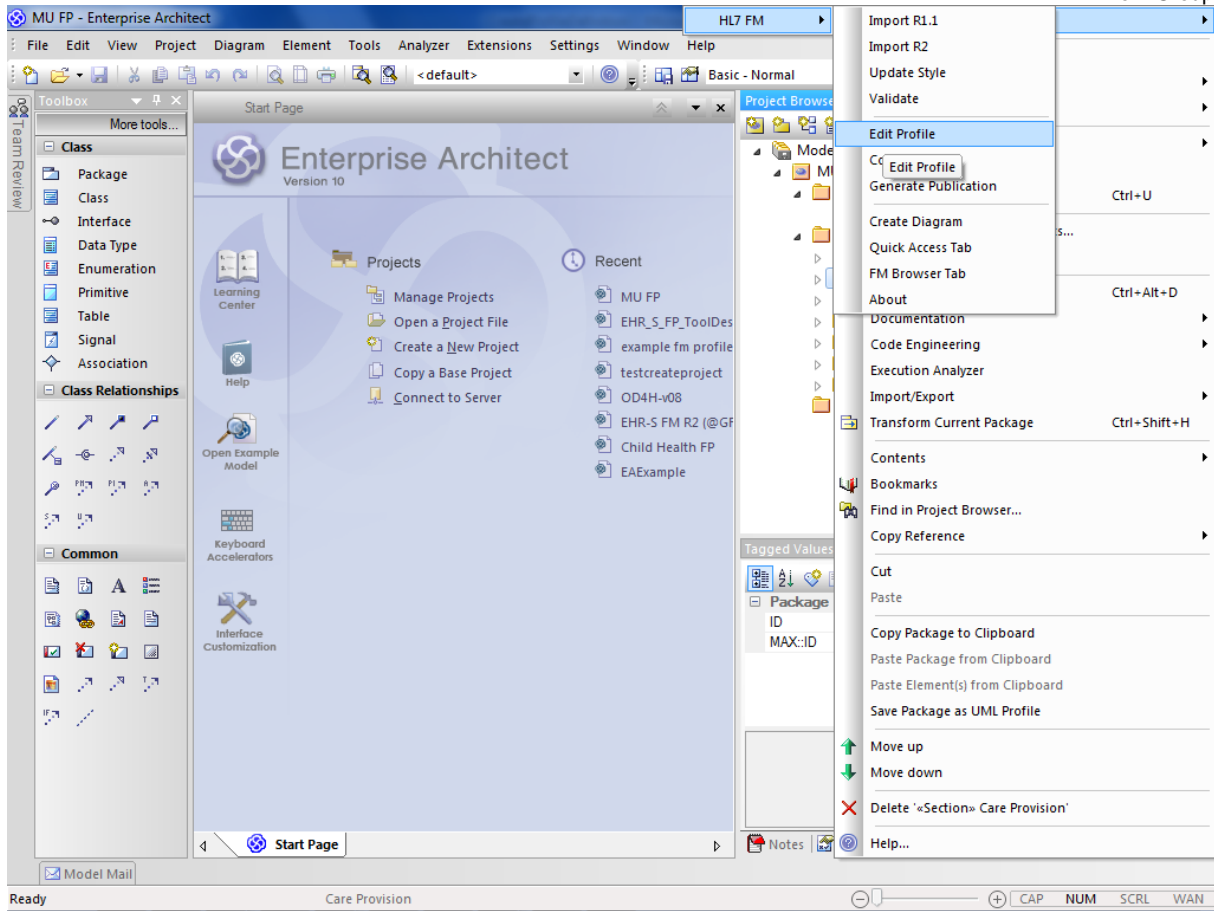- Select Edit Profile in the menu. See figure 2.

Figure 2. HL7 FM Extension menu.

The result of this is shown in figure 3.
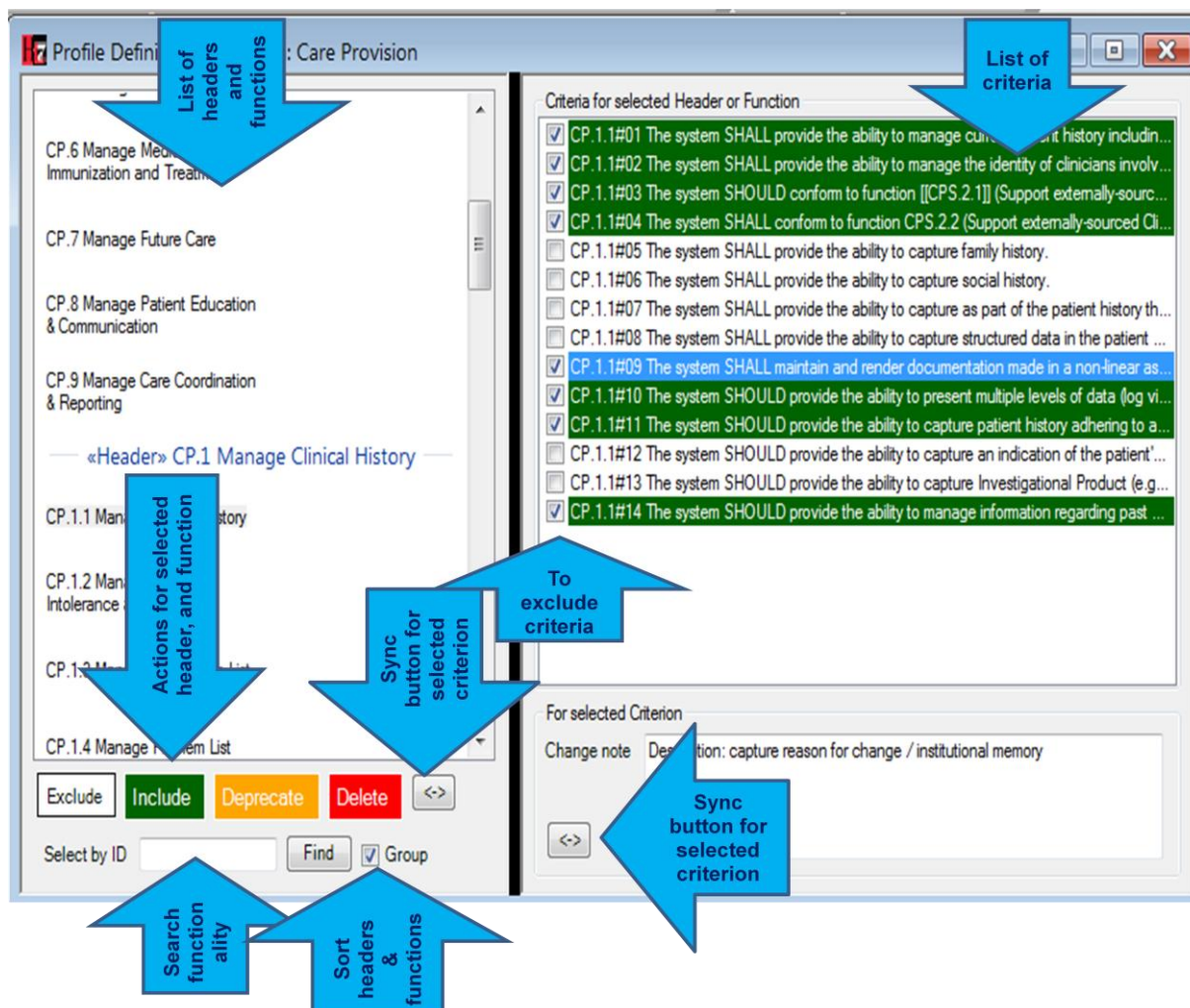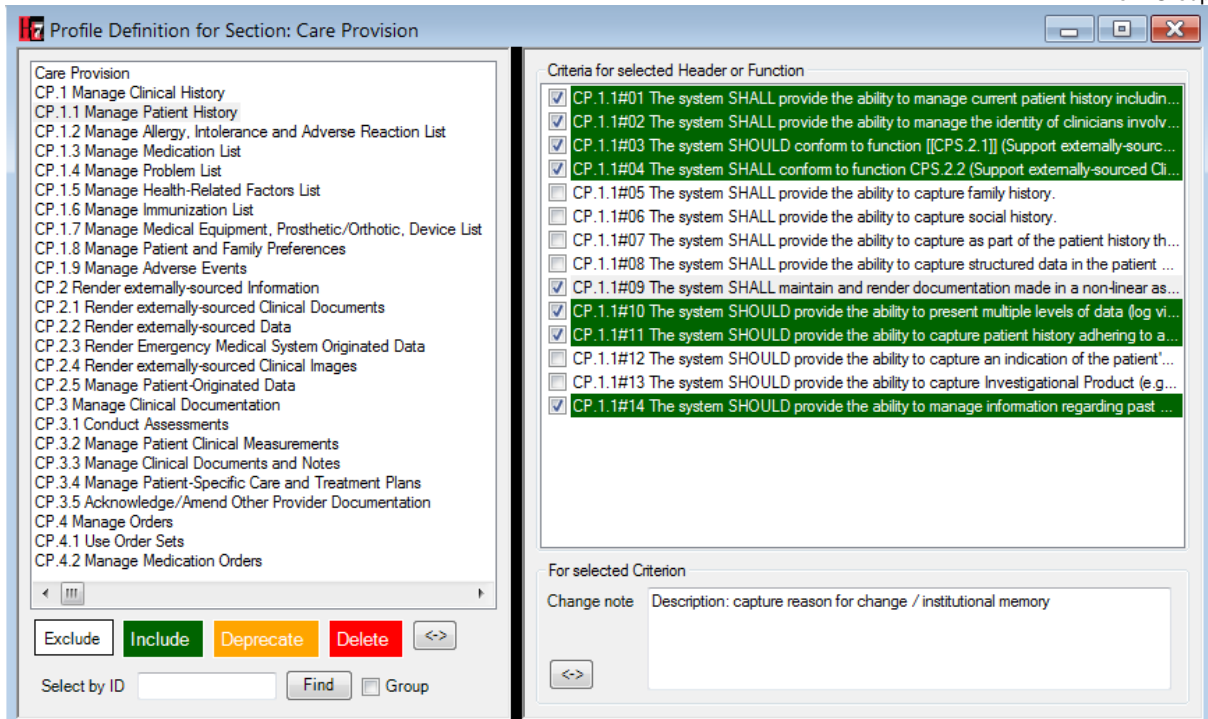
1. The Edit Profile form

Figure 3. User interface (UI) for the Profile Definition.

- On the left you see the list with headers and functions that are in the specific section, in this case Care Provision.
- Also on the left, on the bottom, are the actions for the selected header and functions (the colored options). You can exclude, include, deprecate or delete them.
- Also on the left, on the bottom, is the possibility to search for a header or function, search is done by entering the ID.
- Also on the left, on the bottom, is the possibility to sort the headers and functions in another way. See figure 4.

Figure 4. Edit Profile form with Headers and Functions sorted in another way.

- On the right the list with criteria for the selected header of function, in this case CP.1.1 Manage Patient History.
- If the function is included, all the criteria are included by default. By checking out the box twice, empty box, the criterion is excluded. The criterion is grey now.
- <-> By clicking on this button the selected element is opened in the Project Browser. In the process of reviewing the element you can also review the relationships in the Traceability View.
- In the top navigation select View, and select Traceability View. Drag this window next to the Tagged Values. See figure 5. See User Guide 'TraceabilityElements.pdf' in chapter 'browse'.
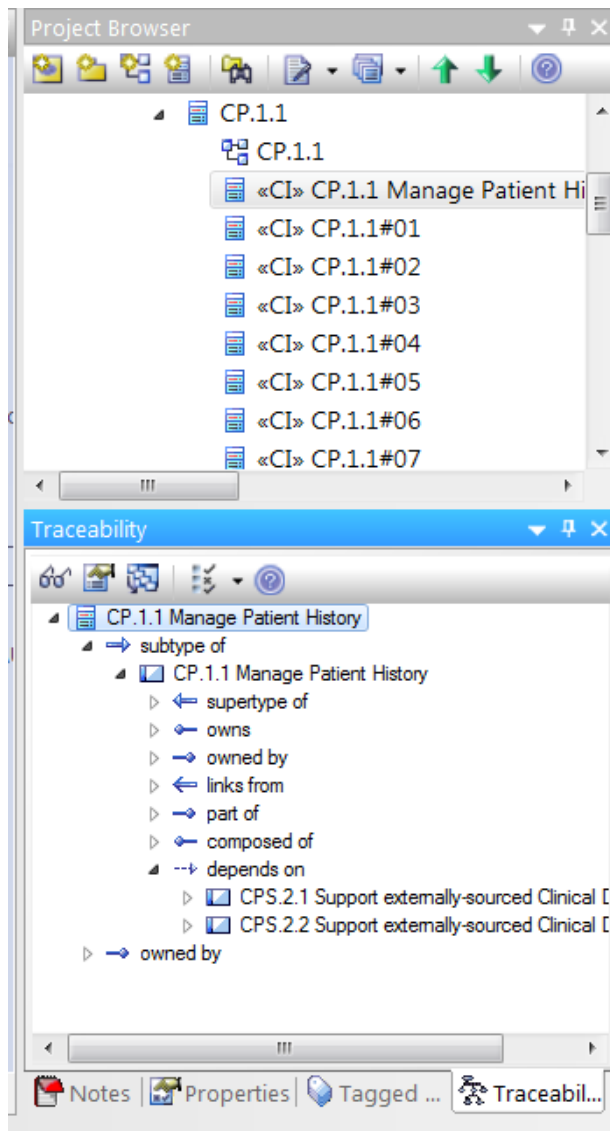
Figure 5. Traceability view of the selected element in the Edit Profile form.

2. Actions on headers and functions

Headers and Functions are **excluded by default**. If you want to have a function in your Functional Profile, you need to include that function. The parent of that function, this can be a header, will be auto-included in the Functional Profile. So a header will be included when you are including functions of that header. There is no need to include the header explicitly.

- When you include a Header or Function, this will be shown as **Green**. You will see in the Profile Definition, in the Tagged Value, the included function.
- When you deprecate a Header or Function, this will be shown as Orange. You will see in the Profile Definition, in the Tagged Value, that the function is deprecated, it is indicated as DEP.
- When you delete a Header or Function, this will be shown as **Red**. You will see in the Profile Definition, in the Tagged Value, that the function is deleted, it is indicated as D.

- A function can be excluded after it was included. All explicit excluded functions are in the Profile Definition and indicated as Excluded in the Tagged Values.

The result of including a function for the Profile Definition is shown in figure 6.

If there is a reference in a criterion, for example 'CP.1.1#03 The system SHOULD **conform to function** CPS.2.1 (Support externally-sourced Clinical Documents) to capture, store and render previous external patient histories', function CPS.2.1 will be auto-included in the functional profile, because of the ConsequenceLink in the model. So check the relevancy of that criterion and the reference in it. Use the Sync button for that. In EA the selected function is opened. Now you can review the relationships in the Traceability view.

If you don't want to have that reference function in you Functional Profile, you need to exclude the criterion in which the reference is included. So in that case CP.1.1#3 needs to be excluded.

Check again, because a referenced function can still be included because of another relationship.

More about relationships between function see the 'How-to Guide for creating functional profiles', file name How-to Guide_R2_final, the specific parts 'Referencing Other Criteria or Functions' in chapter 5.7 and 'Check for Dependencies and Co-relations' in chapter 5.10.
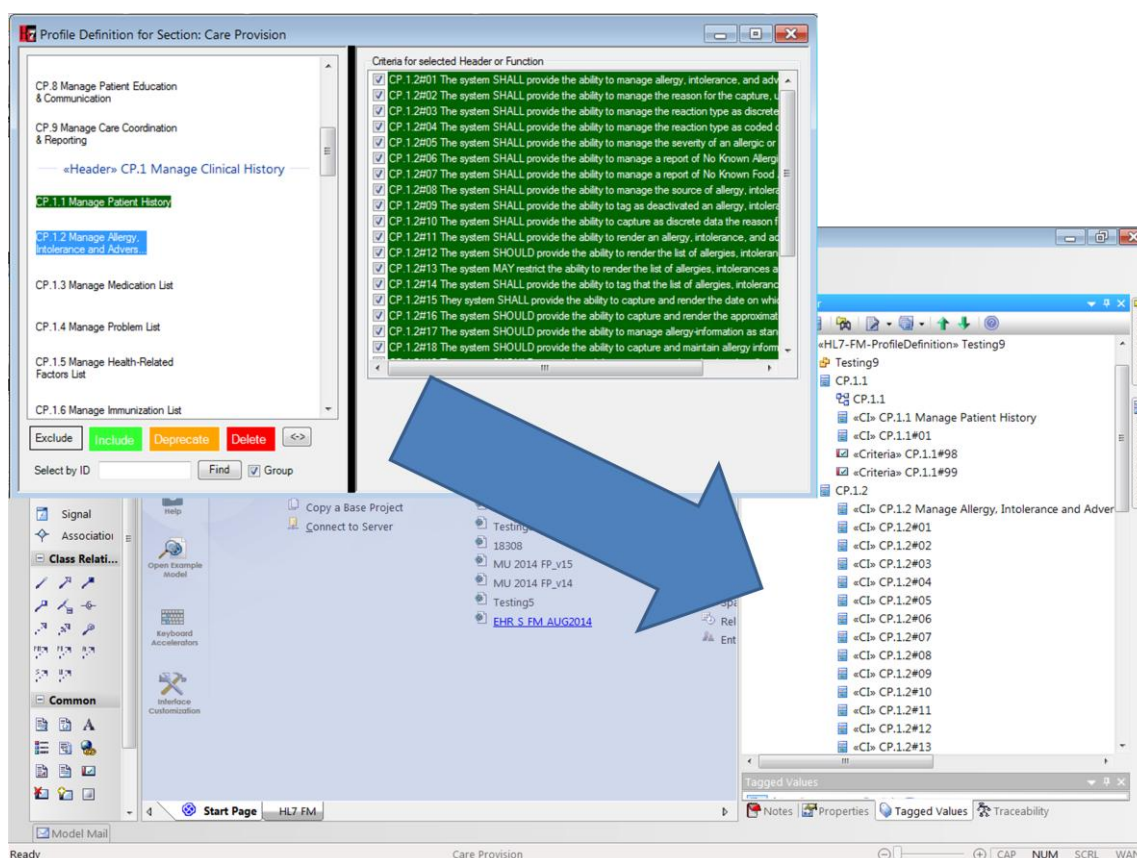

Figure 6. Example of a Profile Definition.

If you want to edit the header or function (name, statement or description):

- Select the header or function and select Include.
- Double click on that header or function in the Edit Profile form on the left.
- The form of that header or function will open and changes can be made. See figure 7.
- This can also be done by including the header or function and double click on that header or function in de Project browser view. The form will also open.
- To compare the changes with the original text, click 'Switch to base element'.
- To save the changes you made, click on Apply if you still want to continue working. Click OK if you also want to close the form.

Figure 7. An in the Edit Profile form selected function.

In the function the description can be changed. If you 'Switch to base element', you will see that everything is locked to prevent you from making changes in the base model. See figure below.

Figure 8. Form of a function opened in the Edit Profile form with locked view 'Switch to base element'.

NOTE: changes in headers and functions are bound by certain rules. These rules are described in the 'How-to Guide for creating functional profiles', file name **'How-to Guide_R2_final'**.

The * next to a field indicates that the element is profiled (included or changes were made).

Principles:

- If you include a function, the parent of that function will be included in the compiled profile automatically!
- If you include a criterion in where there is a reference to another function, this function will be included automatically.

NOTE: All the actions you perform needs to be saved. This is done by closing the Edit Profile.

3. Actions on criteria

Criteria of a selected and included header or function **are included in the Profile Definition by default**.

- If you include a function, all criteria will be included automatically by the compiler.
- If you don't want to have a criterion in the functional profile, you have to explicitly exclude that criterion. See figure 9. Select that criterion in the Edit Profile form and click twice on the box. The checkbox is empty and the criterion is grey. See figure 5.

Figure 9. Edit Profile form with excluded criteria. <

- If the function is included automatically because of a reference in another function, all the criteria of that function will be included automatically. You need to review them.
- If you change a criterion in the function (text and/or optionality), the function will be also included automatically. In that case you don't need to explicit include the function. However, if in the process of Profile creation the function needs to be excluded, check the criterion.

NOTE: Remember, a criterion is included in the Profile Definition when you include a function. Only when you explicitly exclude the criterion it is excluded in the Profile Definition.

If you want to edit a criterion:

- Double click on that criterion in the Profile Definition in the Project browser. You will get the Criteria Form. See figure 10.
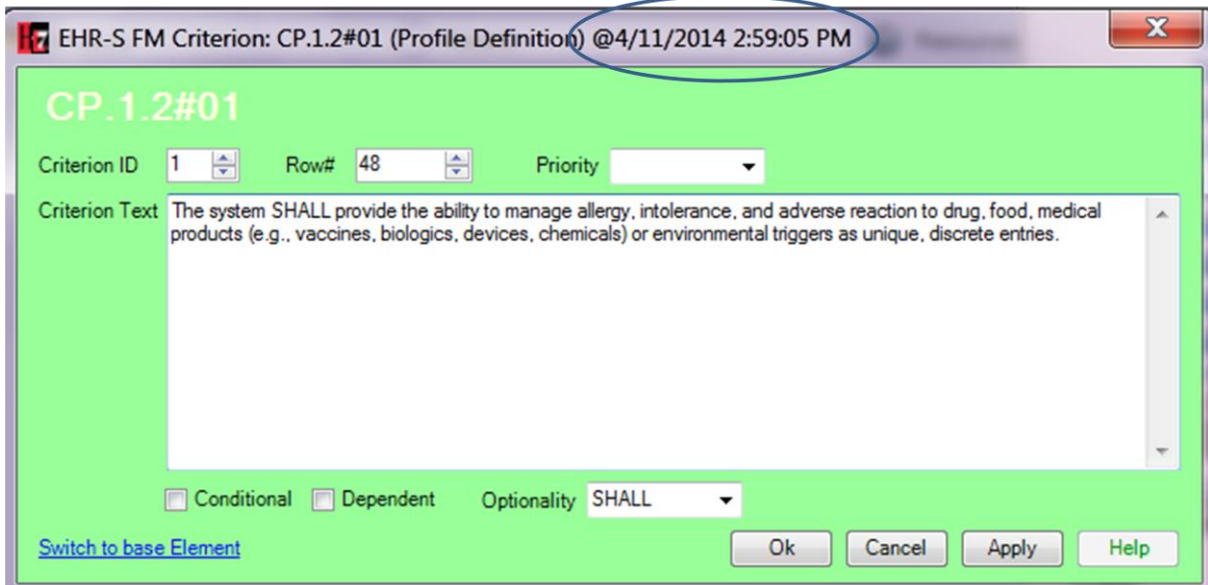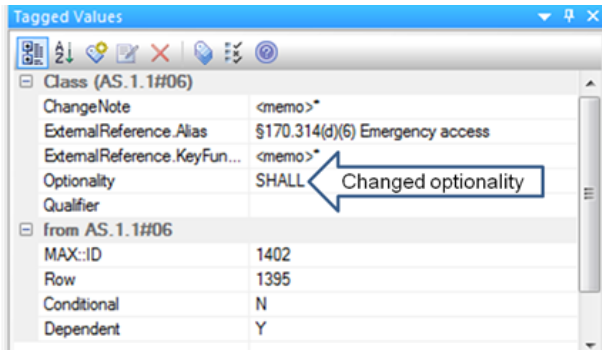
Figure 10. Criteria Form for editing the criterion.

- *Change the optionality*: select the Optionality field and choose the optionality you want.
- The changed optionality can be seen in the Tagged Values of that criterion in the Profile Definition. See figure 11.

Figure 11. Tagged Values of a selected criterion with changed optionality.

NOTE: follow the rules for changing the optionality. See in the standard chapter 6 Conformance Clause.

Functional domain profiles claiming conformance to the Functional Model MAY'

- *Change the text of the criterion*: this is done in the field Criterion Text. Click Apply to confirm the changes.
- See the original criterion text: click on 'Switch to base Element': you can read the original text of the criterion. See figure 12. Notice that the fields are grey. This is because you are viewing the text in the Base Model. You are prevented for making changes in the Base Model.

Figure 12. The Criteria Form with the original text of the criterion.

- To *assign the Priority* click on the dropdown menu in the box Priority and select the priority you want to assign, Essential Now, EN, Essential Future, EF or Optional, OPT.

Assigning a priority can be done on both function and criterion level. State in the Profile Metadata how you assigned the priorities and how to interpret them. This because:
- You can assign Essential Now on function level, but certain criteria of that function can be assigned Essential Future.
- You can assign a priority on function level and this is applicable for all the criteria of that function.
- You can only assign priority on criteria level.

The result of a validation of the Profile Definition is a warning that not all priorities were assigned or that there is an inconsistency in assigning the priorities.

Another functionality for 'Priorities' is assigning a new priority, a priority created for the project.
- Just enter the abbreviation of the new priority in the Priority field.
- Describe the new priority in the Profile Metadata in the Priorities Definition as follows: EFT – text (abbreviation space-spaceexplanation).
- In the custom form the full text of the abbreviation is shown if you go to the priority field (tooltip function).

- Click OK when you are done editing the criterion.
- The changed text of the criterion is also changed in the Edit Profile form (figure 3).
- In the Profile Definition the text of included criteria is not shown in the Notes. However, if the criterion text was changed, this text can be viewed in the Notes.

Principle: everything that was changed can be viewed in the Profile Definition. Even if a criterion was excluded, deprecated or deleted this is included in the Profile Definition. Elements that were included

in the Profile Definition, but not changed, are included in the Profile Definition, but text and optionality are not shown. The ChangeIndicator that indicates that something was changed compared to the base model will be added in the compiled profile.

4. Add functions and/or criteria

To add Functions or criteria to the Functional Profile Definition, see the user guide 'AddingEHR_S_FMFPcomponents.pdf' in chapter Edit FP.

5. Compile the Functional Profile

If you want to compile the Functional Profile you are creating, you can do that by selecting the package Profile Definition, right click, go to Extension and HL7 FM and select Compile Profile. See figure 7.
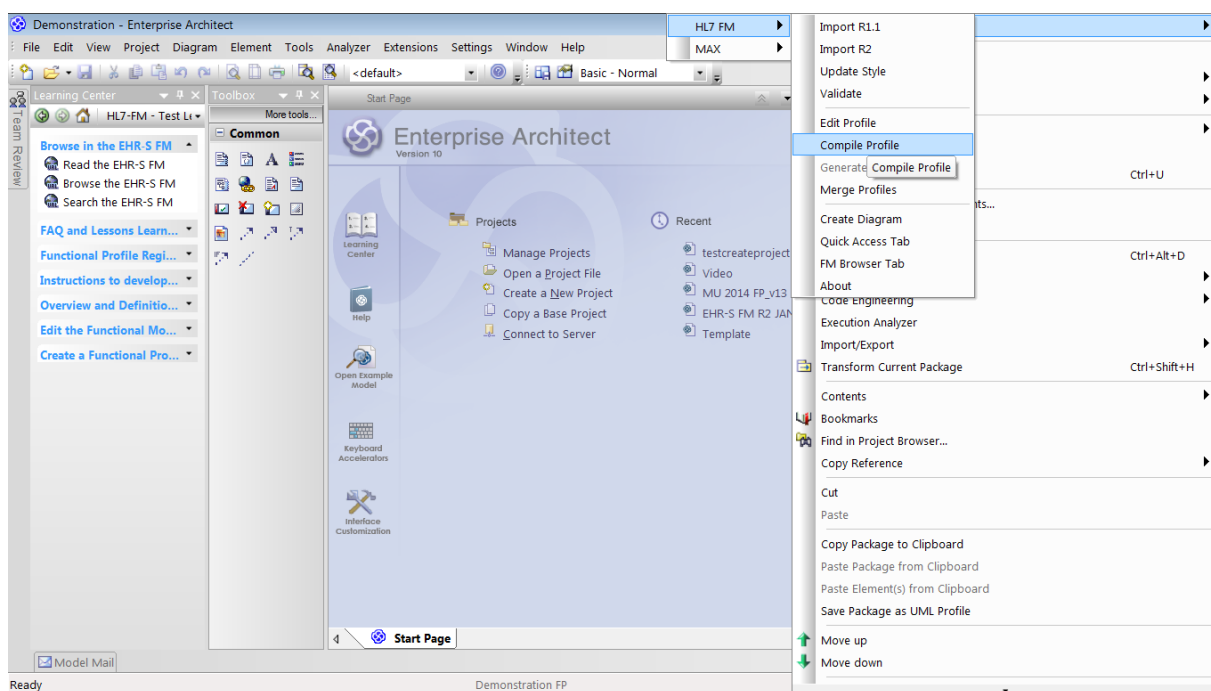

Figure 7. Compile the new functional profile.

How to manage the new Compiled Functional Profile is described in chapter 'Creation' in the user guide '7CreateCompiledProfile.pdf'.