

## Nordic Casemix Centre - NDMS

### #690 - Use of ATC codes in NordDRG and NDMS

2020-02-25 14:03 - Martti Virtanen

<b>Status:</b>	Closed	<b>Start date:</b>	2020-02-25
<b>Priority:</b>	Minor	<b>Spent time:</b>	0.00 h
<b>Assignee:</b>			
<b>Category:</b>			
<b>Initiator:</b>	Nordic Casemix Centre	<b>Owner / responsible:</b>	
<b>Target year:</b>			

#### Description

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##### The goal

To allow continuous maintenance of ATC codes in NDMS and to allow their use in DRG assignment.

##### Background

Different NordDRG versions have used ATC-system to identify drugs both as components of diagnostic information and as components of intervention information.

For this purpose the the ATC information has been imported to the grouper either as secondary diagnosis code or as intervention code.

Local systems have usually not been capable to handle 7 character codes as dx or procedure codes and therefore also the old NDMS was not designed to use more than 5 characters of the ATC codes.

However it is obvious that a major part of the information is lost when shortening the code to 5 characters. For this reason one has in Finland used for a number of drugs the 5 last characters of the ATC code. This obviously loses the main part of the information, but for limited purposes this has worked.

The new NDMS is now capable to handle as many characters as wanted

At least in Finland THL has also started to collect 7 character ATC information and thus it seems possible to get full length ATC code information from the hospitals.

Because of the ongoing change we have not updated the ATC codes other than those that are actually used in NDMS and thus even the 5 character codes do not match with WHO Collaborating Centre for Drug Statistics Methodology (WHOCC) official classification. At least Sweden has expressed a need to update the ATC codes.

Our plan is now to implement all 5- and 7-character ATC codes to NDMS and I have downloaded the up-to-date classification from WHOCC. The price of the download is 200€ and it seems that the national versions may not include the English text that is only available from WHOCC.

The comparison with Finnish official version on the National code server revealed that a number of the national codes are not included in the up-to-date WHOCC version of ATC. The Finnish Medicines Agency (FIMEA) that is supposed to maintain the classification also on the code server has an almost perfectly updated version on their own web-site (only WHOCC codes are missing).

Of the ATC codes that are included in the Swedish NordDRG definition tables quite many seem not to be included in the WHOCC ATC version. I have not checked for a complete ATC version from Sweden as I did not have it readily available.

The problem seems to be that ATC system adds temporary codes that are later modified when 'correct' code is invented. WHOCC and FIMEA do not maintain history of the codes nor the mapping of old codes to current codes in the published versions of the system. The non-matching national concepts usually exist in the WHOCC version but with another code.

An additional problem is that we have an almost complete Swedish translation of the WHOCC ATC codes from FIMEA, but the translations are different in Sweden and Finland.

In the future it might be optimal to maintain the ATC system as a separate basic classification that is used by both diagnostic and intervention components of the system.

##### Technical change

We propose that all WHOCC 5- and 7-character codes are added to both procedure codes and Dx codes in NDMS.

As diagnosis all ATC codes will belong to diagnosis category 00M00. This means that ATC codes cannot be used as principal diagnosis but some of them may have grouping properties (diagnosis properties) that affect DRG assignment. The properties that 5-character codes currently have will be given to all 7-character codes that are 'children' of the 5-character codes.

As intervention codes (used by Fin and Nor) the ATC codes will all have OR=0 property. They do not affect DRG assignment as surgical interventions. They may have procedure properties (and grouping properties) and affect through these properties the assignment. When 7-character codes are added the properties are copied from existing codes to corresponding 7 character codes.

As a second phase the 5-character codes will be omitted and the current codes will be linked to the residual group of the 7-character codes.

##### DRG change

The goal is that this change will not affect the DRG assignment at all.

The countries may continue to use the existing codes as they will be linked with codes with the current properties.

## History

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### #3185 - 2020-02-25 13:04 - Martti Virtanen

- Task type changed from Case to NDMS

### #3363 - 2020-04-07 12:06 - Martti Virtanen

- Status changed from Active to Further active

2020-03-09 Expert group

Expert group was positive to this development.

The practical changes will be discussed probably next year.

### #3382 - 2020-04-15 12:10 - Anonymous

2020-04-15 Ralph D

Sweden will update our ATC-codes with 7 character codes with Swedish text to PL2021 version. Technical Changes for this will be submitted soon, we are working on them.

### #3459 - 2020-09-04 10:22 - Martti Virtanen

- Description updated

### #3460 - 2020-09-04 10:25 - Martti Virtanen

- Description updated

### #3672 - 2021-02-27 15:40 - Martti Virtanen

- Attachment Proc\_plus - atc.xlsx added

- Attachment Dg\_plus - atc.xlsx added

- Attachment proc\_nat - atc.xlsx added

- Attachment dg\_nat - atc.xlsx added

- Attachment ATC proc features.xlsx added

- Attachment ATC dg features.xlsx added

- Initiator Nordic Casemix Centre added

2021-02-27 NCC Martti Virtanen

WHO-ATC codes are now mapped to the existing drug codes in NDMS and MBC and to the national ATC-tables (Finland and Sweden) including the Swedish version that contains the veterinary ATC-codes.

The veterinary codes are mapped where possible to corresponding human codes. The codes for substances that are not used in human medicine, cannot be linked to human ATC. It is probable or even obvious that they cannot be used in human medicine. Therefore I have added a special code X99XX99 'Veterinary substance not registered for human use'. This code shall obviously have no properties for NordDRG.

The existing special Norwegian and Finnish codes are mapped to the WHO-ATC codes by careful comparison of substances and codes. The properties that the national special codes had are now given to the corresponding 7 character WHO-ATC codes. Since the old national codes are linked to these codes in the national definition table they will have same properties as previously.

As always the properties are and will be defined to the combined version codes that in this case are WHO-ATC codes.

The attached tables need to be imported to the MBC and NDMS. The imported national tables are different for dx's and procedures, because the national codes (fin and nor) have only been used as intervention codes.

Before importing the new tables, the existing drug codes need to be removed from the system. This can be done in Excel by filtering the codes out. The tables will be resorted from these files that removes current content.

### #3676 - 2021-03-02 12:58 - Martti Virtanen

- Attachment proc\_nat atc - all FIMEA codes.xlsx added

- Attachment dg\_nat ATC - all FIMEA codes.xlsx added

2021-03-02 NCC Martti Virtanen

In addition to my previous comment.

The proc\_nat and dg\_nat tables do not include only the ATC codes that are currently in use in NordDRG except for Sweden. Sweden has delivered the full list of ATC codes that will be in use in Sweden. It includes 7- and 5-character ATC codes and 8- and 5-character veterinary ATC codes.

5-character ATC codes correspond to 4 character human ATC codes that have never been used in NordDRG. Therefore they cannot be linked to human ATC codes and are removed.

The other national ATC-version have not been delivered to Nordic Casemix Centre but the Finnish version is available for us. It is linked to WHO-ATC (the codes were not allways the same). The attached files can be added to the proc\_nat and dg\_nat tables. This is probably necessary since Helsinki University Hospital has announced that they will be using the 7-character ATC codes. It is possible to do the same type of mapping to other national ATC versions, if they are delivered to Casemix Centre.

**#3968 - 2021-09-07 12:29 - Kristiina Kahur**

#### 2021-09-06 Expert group

This situation with ATC codes was discussed during the EG Autumn meeting.

The use of ATC codes and need to have them (fully or partially) included in definition tables varies from country to country. Regardless of different needs and use on national level, NDMS is aimed to meet all national needs for maintaining the ATC classification.

It seems reasonable to change the way how ATC codes are currently managed and maintained in NDMS/MBC. That would meant that ATC is mangaged as a separate primary classification similarly to ICD10 and NCSP. All national ATC codes would be mapped to ATC+ code which includes only those ATC codes included in the classification managed by WHO Collaborating Centre for Drug Statistics Methodology (based in Oslo).

The potential change has been discussed with NCC IT support and the description of how the further management of ATC codes in NDMS/MBC should take place has drafted.

The implementation consists of following principles:

- ATC Nat and ATC Plus tables in MBC, copied from Proc Nat and Proc Plus tables (in the ATC tables, the "proc" columns are "atc" columns)
- Validations identical to Proc tables validations
- Exporting to csv/excel identical to Proc tables
- When importing codes from MBC to NDMS, the ATC codes are merged to the contents of Proc and Dg tables on the fly, these then replace the NDMS Dg and Proc tables in MBC, the ATC codes remain separate from Dg and Proc tables
- NDMS read only ATC tables

All additional technical details concerning the implementation of this change can be shared upon request. As this is not implemented yet, the changes might be possible during the implementation.

For time being no changes will be done in NDMS/MBC before the delivery of 2022PR tables though. The 2022 tables will include the ATC codes based on information got from countries interested in having ATC codes in their def.tables.

The case remains open and we get back to this in EG 2022 Spring meeting.

Any questions related to the issue will be communicated *via* this ticket.

**#4319 - 2022-11-08 07:44 - Kristiina Kahur**

- *Description updated*

#### 2022-03-18 Expert Group

The case remains open.

NCC will proceed with better management of ATC codes in MBC (a separate module in NDMS for maintenance of basic classifications) which means that a separate table will be created for ATC and ATC+ codes in MBC. No changes in NordDRG definition tables for time being. ATC codes remain as part of dg and proc tables as well as dg\_feat and proc\_feat tables as they are now.

In EG Autumn meeting the case will be discussed again.

**#4395 - 2023-03-15 18:03 - Kristiina Kahur**

- *Status changed from Further active to Closed*

#### 2023-03-09 Expert Group

This case was created under tracker 'NDMS' to inform the NordDRG users about the changes in the maintenance of ATC codes and technical preparation. This is linked to ticket #853 which was created to clarify the situation with the use of ATC codes in NordDRG user countries. Based on this in the future the ATC codes will be maintained in MBC (a separate module within NDMS) as a separate classification similarly to ICD and NCSP. In the Diagnosis Feature table and Procedure Feature table the ATC codes will be identical in those national versions where ATC codes will be continuously be part of def.tables.

The update process of ATC codes (as well as ICD and NCSP codes ) will continue according to NordDRG annual timetable.

Case is closed.

#### Files

ATC dg features jmf m SWE ATC 2021.xlsx	20 MB	2021-03-18	Anonymous
dg_nat ATC - all FIMEA codes.xlsx	300 kB	2021-03-02	Martti Virtanen
proc_nat atc - all FIMEA codes.xlsx	300 kB	2021-03-02	Martti Virtanen
ATC dg features.xlsx	400 kB	2021-02-27	Martti Virtanen
ATC proc features.xlsx	400 kB	2021-02-27	Martti Virtanen
dg_nat - atc.xlsx	900 kB	2021-02-27	Martti Virtanen

proc_nat - atc.xlsx	700 kB	2021-02-27	Martti Virtanen
Dg_plus - atc.xlsx	300 kB	2021-02-27	Martti Virtanen
Proc_plus - atc.xlsx	200 kB	2021-02-27	Martti Virtanen
atc SWE 2020 FIMEA for Proc .xlsx	400 kB	2020-02-25	Martti Virtanen
atc FIN 2020 FIMEA for Proc .xlsx	600 kB	2020-02-25	Martti Virtanen
ATC Common for proc 2020.xlsx	200 kB	2020-02-25	Martti Virtanen
swe_proc_codes_missing_in_ndms.xlsx	20 kB	2020-02-25	Martti Virtanen