FHIR Care Communication

MedCom FHIR Standard

v. 0.4

Content

1 Introduction

This is the textual part of the documentation for MedCom's FHIR standard for care communication, henceforward referred to as FHIR-CC. It contains purpose, background, an illustration of FHIR-CC, and requirements and recommendations for FHIR-CC, including functionalities, as well as information about a transition period with simultaneous operation of the care communication standards DIS91/XDIS91 and FHIR-CC.

The target group for this text is IT system vendors and persons responsible for implementation, who support FHIR-CC sending and receiving.

Requirements and recommendations for content, including functionalities, have been completed in collaboration with a national working group with representatives from regions, municipalities, and general practitioners (GPs). In addition, material describing the content and functionality of FHIR-CC has been sent for consultation to relevant MedCom groups and has been widely available for comments via publication on MedCom's website.

The technical specifications (the profile) for the FHIR-CC standard can be found via Simplifier.net. In the profile, the technical specifications, the Danish language takes precedence over English.

FHIR-CC will in the long term replace the MedCom standard care communication DIS91/XDIS91 (also previously referred to as ClinicalEmail), as it will be gradually phased out.

2 Purpose

On March 3, 2019, MedCom's steering committee approved that MedCom prepares a new improved standard for care communication (FHIR-CC).

The purpose of FHIR-CC is to:

- Support digital communication between healthcare professionals
- Strengthen the start-up of digital communication between the social care, psychiatric, and somatic sectors
- Provide the opportunity to attach and exchange digital documents between different actors
- Support automatic sorting at time of receipt using common national categories (= main headings)
- Respect regional co-operation agreements by retaining the possibility of specifying regionally agreed keywords (= supplementary headings)

3 Background

The care communication standard DIS91/XDIS91 is used by many healthcare professionals. The standard is implemented in more than 70 IT systems, and every year approximately 5 million care communications are exchanged. Today, most care communications are mainly exchanged between the GPs and home care in the municipalities.

As the Shared Medication Record is being implemented within the social care sector and the substance abuse services, an increased use of care communication is foreseen. At the same time, digital communication between the social care and the healthcare sector is under its way and here, the care communication already plays a significant role, as it is typically implemented first.

For several years, requests have been received for improvements and changes in the care communication DIS91/XDIS91 standard from several different professional groups.

The following has, among other things, been requested:

- that technical improvements are implemented in the form of an independent space for heading/categorisation

- that it will be possible to embed documents in the communication between e.g. municipalities, hospitals, and GPs
- that unique IDs are used in the message so that it can technically be linked to other messages in a thread, thereby increasing the reading overview for the clinical professionals
- that the use of "priority" is considered, including common rules for the use of priority

In 2018, MedCom set up an operational steering committee for the social care and healthcare sector with the purpose to follow and support developments in the social care and healthcare sector. The operational steering committee requested the opportunity to exchange documents digitally, including, among other things: coordination plans/focus plans, treatment plans and clinical documents, or schedules for team meetings.

Based on the above needs, FHIR-CC was developed.

4 Illustration of FHIR Care Communication Message

Below is an illustration of content in FHIR-CC. The illustration is an example and does not contain all the data that is in the standard and does not reflect the individual system's user interface.

Citizen:	251248-9996 Nancy Ann Test Berggren Testpark Allé 48 3400 Hillerød
Sender:	Nordsjællands Hospital Test Dyrehavevej 29 3400 Hillerød
Recipient	Hillerød Kommune Test Trollesmindealle 27 3400 Hillerød
Category:	Care
Subject:	Questions regarding admission report

Message text:	Hello Nancy Ann has been hospitalised. We have received the admission report from you, but we have a few questions… Kind regards May June Test Moberg, nurse at Nordsjællands Hospital Test

Attachments:	

Signed by:	**Date:** 2019-10-20 **Name:** May June Test Moberg **Title:** Nurse **Telephone: (**+45) 79182375 **Department:** Department of Therapy

5 Requirements and recommendations for FHIR Care Communication

FHIR-CC **must** contain information about:

- Citizen/patient to whom the request relates
- Sender
- Recipient
- Category (explains at a general level what the content of FHIR-CC is about)
  - The category must always be visible, both to the sender and to the recipient
- Message text
- Signed by (including sender name, title, and overall telephone number)
- Technical data on the message (including ID among others)

FHIR-CC **may** (= voluntarily) contain:

- Subject (supplements the selected category with additional keywords, which in further details explains what the content of FHIR-CC is about)
- Attachments

6 Category and Subject

Category consists of a nationally determined list of agreed categories, from which the recipient selects the category. The list enables the recipient to distribute (automatically) received FHIR-CC, e.g. to the relevant municipal area. Distribution by national categories in FHIR-CC is an option that the systems have, and MedCom does not check it as part of testing and certification.

The following national categories have been agreed: (NB: still in process)

- Ambulatory
- Other
- Death
- Care coordination
- Assistive technology
- Medicine
- Psychiatry, social, disability
- Alcohol and drug treatment
- Health care
- Care*
- Telemedicine
- Training**
- Hospital discharge
- Regarding referral
- Home care assessment
- Examination result

*The term includes healthcare, homecare, hospital care, eldercare etc.
**The term includes general/common training, rehabilitation, maintenance training etc.

In the subject field, one has the option of supplementing the selected category with additional subject headings. The subject field is filled in either with the regionally agreed subject headings or self-written narrative text. It has been chosen to maintain the subject field to be able to support the existing cooperation agreements with the regionally agreed subject headings. There is no requirement or expectation that the systems can distribute by subject headings.

To support the user as much as possible, **the following is recommended**:

- Regionally agreed subject headings are mapped up to the nationally agreed categories, where the relevant subject headings are related to the relevant categories.
- In the usage situations, where there are regionally agreed subject headings:
  - The user is introduced to the regionally agreed subject headings that they know, and when selecting subject headings, the system automatically applies the relevant category (which is selected by preceding mapping between category and subject headings). The user thus avoids having to decide on a category.
  - The category must always be visible, both to sender and recipient - even if one has regionally agreed subject headings. However, to support the user, the category can be made less visible in the user interface, for example by 'fading it out' if there are regionally agreed subject headings.

- In the use situations where there are no regionally agreed subject headings:
  - The user selects a category and then has the option of supplementing with self-written subject headings as narrative text in the subject field.

MedCom provides a classification server that exhibits the national categories and permitted types of attachments/types of files. Governance, including access and updating, of the classification server as well as maintenance of the list of the nationally agreed categories will be determined under the auspices of MedCom during 2020.

7 Priority – limited use requirements

It will, moreover, be possible to mark a FHIR-CC with priority. All systems are tested so they can receive and display priority. In relation to the use and sending of priority, all systems are tested so that priority is only visible and possible to use when choosing the national category “Regarding referral". The requirement appears from the use case and associated test protocol because the need to use priority has been raised under the auspices of the project regarding improving referrals, including revising the referral flow. The use of priority must be adapted on an ongoing basis in relation to developments in collective agreements and on the basis of national requirements from the Ministry of Health, the Danish Health Authority, and the Danish Health Data Authority.

8 Attachments

It is possible to attach attachments/files, which are embedded in FHIR-CC. An attachment list of permitted types of attachments is then created. The list of types of attachments is placed on the classification server. The following types of files are allowed and can be included with FHIR-CC: PDF, PNG, JPEG, and GIF.

It has been decided that video cannot be included in FHIR-CC due to size. It is recommended that videos are shared via a the national document sharing service.

There will be no limit on how many attachments can be included in FHIR-CC. Instead, there will be a limit on the size of the entire FHIR-CC, including attachments. 50 MB is the maximum size of the entire FHIR-CC, which is sent via the Value Added Network Service (VANS) communication network. There will be ID on attachments.

As part of testing and certification, MedCom checks that attachments are securely received and stored at a technical level, while requirements for support of workflows and user-friendliness must be handled locally in collaboration between customer and IT vendor.

9 Modes of transfer

- It is possible to answer a previously received FHIR-CC. In this case, the answer is automatically addressed to the sender of the previously received FHIR-CC.

- It is possible to forward a received FHIR-CC. The reason for the forwarding can (optionally) be specified in a separate subject when one chooses to forward a care communication. It is up to the users when they consider it relevant to forward a received FHIR-CC. The users are therefore responsible for the forwarding and the relevance in terms of the current course of treatment. When one chooses to forward a care communication, one must actively choose which previous text threads and attachments/files one wants to send. The original sender - the person who started the correspondence thread - will always appear on the forwarded care communication. If one chooses to reply to a forwarded FHIR-CC, one can choose the recipient, for example the original sender or a prior party in the communication thread.

In addition, it is also possible to reply to a previously received MedCom message with a FHIR-CC, whereby the reply is automatically addressed to the sender of the previously received MedCom message.

Unique IDs are used in FHIR-CC, so that it can technically be linked to/can refer to other messages, and thus increase the reading overview for the user.

10 Use cases

For use in the technical implementation of FHIR-CC, there are use case descriptions of selected use cases, which focus on the digital communication between municipality, region, and GP, as well as across regions. Use cases are available on Simplifier.

The care communication is used by many different parties and professional groups in the healthcare system, and for various purposes such as ad hoc communication. As a result, it is not possible to make use cases that illustrate all possible scenarios. The selected use cases have been chosen to demonstrate the content and functionality of the FHIR-CC.

11 Transition period with simultaneous operation of care communication DIS91/XDIS91 and FHIR Care Communication

FHIR-CC will eventually replace the MedCom standard care communication DIS91/XDIS91, which will be phased out.

A gradual implementation of FHIR-CC is expected, as it will be complex to change simultaneously in the approximately 70 IT systems that are currently using DIS91/XDIS91. The aim is, however, that the transition period should be as short as possible, and for the major operators and users of the care communication, such as regions, municipalities and GP practices, work is being done towards a common date/period for the transition to FHIR-CC. Possible services, such as portal solution or central conversion, for the smaller systems/professional groups are investigated.

(Presentations will be processed in MedCom's steering committee)

It will be the parties who need the new functions, such as attachments and structured use of category, that drive the implementation and distribution of FHIR-CC.

Health and collaboration agreements must be entered into using FHIR-CC. Likewise, this new type of communication must also be updated in the Organisation Registry of Danish Healthcare (SOR) for the individual actor, thus there is valid data on who has implemented and is using FHIR-CC - and thereby who can receive and send FHIR-CC. The prerequisite for the use of the SOR data to function in practice as an auxiliary tool for correct addressing is shared agreements for updating and use.

12 Corrections

In this section, corrections to the standard will be documented on an ongoing basis.

Edition	Date	Responsible	Description
0.1	21.01.2020	Kirsten R. Christiansen	First draft of textual description, health professional guidelines, of the FHIR-CC standard
0.2	03.02.2020	Kirsten R. Christiansen	Second draft after corrections
0.3	12.06.2020	Kirsten R. Christiansen	Clarifications after feedback at FHIR online meetings in May
0.4	22.10.2020	Kirsten R. Christiansen	Clarification of functionalities such as forwarding and priority