Test protocol for sending a

CareCommunication

January 2025

The test protocol relates to the following standard:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of the standard ENG** | **Name of the standard DK** | **Version** | **Type** |
| Standard: CareCommunication | Korrespondancemeddelelse | 4.0.0 | HL7 FHIR |

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | | | |
| **Version** | **Initials** | **Date** | **Description** |
| 2.1.0 | KML/KRC/TMS/OVI | 31-03-2023 | First release |
| 3.0.0 | TMS/KRC | 18-01-2024 | Update of test protocol in accordance with release 3.0 of the documentation |
| 4.0.0 | KML/KRC/TMS | 28-06-2024 | Update of test protocol in accordance with release v. 4.0.0 of the documentation: Addition of new test steps, cf. section 3.3.11. *S2.A4: Reply to own most previously sent message*  Test step for formatting text in the message text box is removed.  Clarification of communication IDs in communication flow is added to all test steps.  Corrective actions i.e. cancellation and correction are omitted, as the requirement to be able to send and receive cancellation and corrections has been removed. |
| 4.0.1 | TMS | 18-07-2024 | Updated naming of test examples and added links for TouchStone test scripts and test examples. |
| 4.0.2 | TMS/SKS/RCH | 03-12-2024 | In general, clarified formulation and expectations in test steps.  Added test step:   * 3.4.1.7 and 3.4.1.8 to clarify the use of timestamps when replying and forwarding a CareCommunication. * 3.4.1.13 to clarify the use of replacement-CPR * 3.4.1.14 to clarify the support of deceased patients. * 3.4.1.15 to clarify the use of narrative text * 3.4.1.16 to document which types of attachments SUT supports including * 3.4.1.17 to ensure that all content in the Bundle is contained. |
| 4.0.3 | KML/SKS/RCH | 15-01-2025 | Removed a test step in section 3.4 regarding deceased patient (former test step 3.4.1.14), because it is optional to implement in CareCommunication and not a part of the test and certification.  Added test step 3.4.1.15 to ensure that all systems must support and display a linebreak in the free text box of the message . |

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# Introduction

This is a test protocol for sending a CareCommunication (DK: Korrespondancemeddelelse).

All documentation concerning CareCommunication and Governance (see 1.4 Background material) will be the subject of testing, and the test protocol will be continuously updated to reflect the requirements in the best way possible.

Versioning of the test protocol will follow the major and minor versions of the standard but may have a patch version that is different from the standard’s patch version.

**As regards receipt of Acknowledgements**: To be approved, the system under test (SUT) must be approved for receiving the FHIR Acknowledgement (DK: Kvittering). This is described in the test protocol for Acknowledgement.

## Purpose

The test protocol forms the basis for the tests, which must ensure that SUT complies with the established rules and requirements for the standard. The test protocol also forms the basis for the self-test that vendors carry out prior to a live test.

## Prerequisites for live test

The following prerequisites must be met prior to the live test:

1. The vendor has read the following standard documentation, including:
   * [Clinical guidelines](#_Baggrundsmaterialer_1)
   * [Use cases](#_Baggrundsmaterialer_1)
   * [Implementation Guide](#_Baggrundsmaterialer_1)
   * [Governance](#_Baggrundsmaterialer_1)
   * And other relevant materials, cf. the [background material](#_Baggrundsmaterialer_1).
2. The vendor has performed self-test, approved by MedCom
3. The vendor has created relevant test persons in the system under test (SUT)
4. The vendor is using the same version of SUT during self-test and live test
5. Approval requires that the SUT is approved for receiving a FHIR Acknowledgement (DK: Kvittering).

## Documentation of self-test

**Self-test**

**Prior to the test, the vendor must have performed self-test, including successfully completed TouchStone self-tests, which are approved by MedCom.**

The self-test is documented by the vendor completing this test protocol.

For self-tests, only the following column must be completed by the vendor:

* [Test data]: is filled in with the file name(s) which are uploaded and downloaded.
* [Actual result]: is filled in with the results of the self-test and relevant descriptions.

The other columns are reserved for MedCom.

**During the self-test the vendor must document the test results by saving relevant files and screen dumps, and subsequently send these in a combined ZIP file (together with the completed test protocol) to** [**fhir@medcom.dk**](mailto:fhir@medcom.dk)**.**

All files and screen dumps must be named with

* Standard name
* The number of the relevant test step
* Consecutive letter
* File type
* Whether SUT is sender (S) or receiver (R) of the standard

*Example: CareCommunication\_ 3.4\_A\_S.xml*

## Background material

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Version** | **Link/reference** | **Description** |
| CareCommunication – documentation side |  | <https://medcomdk.github.io/dk-medcom-carecommunication/> | Documentation site with references to all relevant documentation, including:   * Clinical guidelines for application (Sundhedsfaglige retningslinjer for anvendelse) * Use cases * Technical specifications |
| Implementation Guide |  | <https://medcomfhir.dk/ig/carecommunication/> | The FHIR technical guidelines for the standard. |
| Governance for MedCom FHIR |  | <https://medcomdk.github.io/MedCom-FHIR-Communication/> | Governance for MedCom’s FHIR standards, which describes general rules for all MedCom standards and specific rules for this standard, as well as for sending. |
| SOP for MedCom’s test and certification |  | <http://svn.medcom.dk/svn/qms/Offentlig/SOPer/SOP-7.2-MedComs%20test%20og%20certificering_godkendelse.docx> | Description of test and certification of MedCom standards and other test courses. |
| Conversion between formats |  | <https://medcomdk.github.io/dk-medcom-carecommunication/#3-conversion-service> | Is under clarification but is planned in the context of the VANS cooperation. The plan is to ensure conversion from FHIR to OIOXML and OIOXML to FHIR. Attached files and Acknowledgements are also handled via the conversion service. |

## Test examples and test persons

|  |  |  |
| --- | --- | --- |
| **Name** | **Link/reference** | **Description** |
| Test examples | <https://medcomfhir.dk/ig/carecommunicationtestscripts/testexamples.html> | Test examples used during the test and certification. |
| Overview of test persons | <https://www.medcom.dk/opslag/koder-tabeller-ydere/tabeller/nationale-test-cpr-numre> | Overview of national test personal identification numbers which can be used during the test.  **Please notice**: During the test, the vendor must be able to use any of the test persons on the list. |

## Test tools

|  |  |  |
| --- | --- | --- |
| **Name** | **Link/reference** | **Description** |
| FHIR server with MedCom profiles | [insert<https://fhir.medcom.dk/fhir/swagger-ui/> | Public server that validates against MedCom's FHIR profiles. It is permitted to use the server for testing the upload/download of FHIR resources.  Vendors can get access by inquiry this at [fhir@medcom.dk](mailto:fhir@medcom.dk). |
| TouchStone | <https://touchstone.aegis.net/touchstone/> | Test tool for testing the FHIR standard.  The vendor can get access to TouchStone as an organisation - either through a license that MedCom supplies (inquiry at [fhir@medcom.dk](mailto:fhir@medcom.dk)), or a license in which the vendor has acquired itself.  Find [instructions for TouchStone](https://medcomdk.github.io/MedComLandingPage/assets/documents/TouchStoneGettingStarted.html) here. |
| Touchstone test scripts | <https://touchstone.aegis.net/touchstone/conformance/current?suite=FHIR4-0-1-CareCommunication-send-Client>  and  <https://medcomfhir.dk/ig/carecommunicationtestscript/> | Test scripts relevant for the standard.  Find [instructions to TouchStone here](https://medcomdk.github.io/MedComLandingPage/assets/documents/TouchStoneGettingStarted.html). |

## Test result

The result for each test step is categorised based on the table below:

| **Marking** | **F1** | **F2** | **F3** | **F4** | **Ok** | **Not relevant** |
| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation** | **Critical** | **Serious** | **Significant** | **Less significant** | **Approved** | **Not an error** |

To get the test and certification approved, the test protocol must consist exclusively of [F4] as well as [OK] results. Thus, All [F1], [F2] and [F3] must be fixed prior to final approval.

When a test step isn’t relevant for the test course, it is noted with ‘Not relevant’.

Approval requires that SUT is approved for receiving a FHIR Acknowledgement (DK: Kvittering).

For further information, please read: [MedCom’s test and](#TestCertificering) certification.

# Information about vendor, system under test (SUT) and test result information

## Information about the vendor

This table must be completed by **the vendor** prior to the test.

|  |  |
| --- | --- |
| Company | Completed by vendor |
| Address | Completed by vendor |
| Contact person | Completed by vendor |
| Telephone | Completed by vendor |
| E-mail | Completed by vendor |

## Information about the system under test (SUT)

This table must be completed by **the vendor** prior to the test.

|  |  |
| --- | --- |
| System | Completed by vendor |
| Version | Completed by vendor |
| Description | Completed by vendor |
| Test type | Self-test  Final test/certification |

## Information about test results

This table must be completed by MedCom when the test has been completed.

|  |  |
| --- | --- |
| Test date | 2023-01-01 |
| Test location | Completed by MedCom |
| Approved | Yes  No |
| Remarks | Completed by MedCom |
| Carried out by | Completed by MedCom. The name of the MedCom responsible (initials) for this test is inserted |

# The test

This section describes the requirements which SUT must meet before final approval.

The test is divided into three sections:

1. Test of TouchStone testscripts
2. Test of requirements for content and flow/workflows
3. Test of general technical requirements

Test participants will be asked to complete tests as described in the tables.

## Documentation of the test

**Documentation of the test**

As valid documentation, the test participant or the test manager must document completion by continuous screen dumps (.png/.jpeg) and/or files/log files (.xml/.json). **Before the test, it is agreed on who is responsible for this.**

The following applies:

* The files must be viewable in a standard tool and must not require further processing by MedCom
* All files and screen dumps must be named with:
  + The name of the standard
  + The number of the relevant test setup
  + Consecutive letter
  + File type
  + Whether SUT is the sender (S) or receiver (R) of the standard

*Example:* *CareCommunication\_ 3.4\_A\_S.xml, CareCommunication \_3.4\_B\_S.xml*

If the vendor has documented the test themselves, the files must be sent in a ZIP file to [fhir@medcom.dk](mailto:fhir@medcom.dk).

## Test of TouchStone test scripts

The purpose of these tests is to ensure that SUT generates the message technically correct and complies with the rules in the [Implementation Guide](#_Baggrundsmaterialer).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
|  | Run all test scripts for use cases and user flows in TouchStone. |  | All test scripts completed without errors. |  | Choose |

## Test of requirements to content and flow/workflows

The purpose of these tests is to ensure that the standard is implemented with satisfactory quality, i.e. that implementation meets the business requirements for flow and content as described in the clinical guidelines and the [use case material](#_Baggrundsmaterialer). These test steps are mainly for the user interface.

The table below lists the use cases which are tested in relation to content and flow/workflows. The table also shows the direct references to the use cases in the [use case material](#_Baggrundsmaterialer).

| **[Use case](#_Baggrundsmaterialer)** | **Description** | **Section** | **Mandatory (M)/ Optional (O)** |
| --- | --- | --- | --- |
| S1 | Send CareCommunication | 3.3.1 | M |
| *S1.A1* | *Send CareCommunication with attached files* | 3.3.2 | M |
| *S1.A2* | *Write topic in the topic box* | 3.3.3 | M |
| *S1.A3* | *Select topic from the list of topics regionally agreed upon* | 3.3.4 | O |
| *S1.A4* | *Select category ”Andet”* | 3.3.5 | M |
| *S1.A5* | *Select category ”Vedr. henvisning” and add priority* | 3.3.6 | M |
| S2 | Reply to a CareCommunication | 3.3.7 | M |
| *S2.A1* | *Reply to CareCommunication with attached files* | 3.3.8 | M |
| *S2.A2* | *Change category and topic in a reply CareCommunication* | 3.3.9 | M |
| *S2.A3* | *Reply to a received OIOXML or EDIFACT message with a CareCommunication* | 3.3.10 | O |
| *S2.A4* | *Reply to own most recently sent CareCommunication* | 3.3.11 | O |
| S3 | Forward CareCommunication | 3.3.12 | O |
| *S3.A1* | *Forward CareCommunication with attached files* | 3.3.13 | O |
| *S3.A2* | *Change category and topic in a forwarded CareCommunication* | 3.3.14 | O |
| *S3.A3* | *Forward a specific part of a CareCommunication thread* | 3.3.15 | O |

Table 1: Table listing the use cases which must be tested (M) and should be tested if SUT supports the functionality (O).

### S1: Send CareCommunication

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Select a test patient and create a new CareCommunication message.  Demonstrate that the information about the test patient is inserted into the message. |  | A CareCommunication message containing the following visible patient information has been created:   * Personal identification number (CPR) * Full name |  | Choose |
|  | Demonstrate that the user inserts a receiver of the message. |  | CareCommunication contains visible receiver information:   * Receiver name * Address |  | Choose |
|  | Demonstrate that the user selects a category from the national list of categories. |  | The user has selected a category which is added to the message. It is not possible for the user to send the message without a category |  | Choose |
|  | Demonstrate that it is optional for the user to write a topic and that no topic is added. |  | A topic is not added, and the message can be sent without a topic |  | Choose |
|  | Demonstrate that the user writes free text in the message’s text box. |  | The user has written free text in the message’s text box. |  | Choose |
|  | Explain how the sender’s signature is added to the message and from where this information is obtained.  *MedCom recommends that signature, if possible, is automatically filled in by the system. The user must be able to manually add elements which cannot be added automatically by the system, e.g. relevant phone number.* |  | For example, the health professional who wrote the message text is used as the author for the message text and information is automatically retrieved, based on who is logged into the system. |  | Choose |
|  | Demonstrate that the system inserts and displays the following information as the sender’s signature in the message segment.   * Date and time * Author’s name * Author’s Role * Relevant phone number   *It is recommended to use a role from the defined list of roles. If this isn’t suitable, a text must be included. More information can be found* [*here*](https://medcomfhir.dk/ig/core/StructureDefinition-medcom-core-practitionerrole.html#scope-and-usage)*.* |  | Author’s signature is inserted and visible to the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts a unique communication identifier to the current message. |  | A communication identifier is inserted in the Communication.identifier element as a UUID v4. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segment(s) for the current message. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to a receiver, while complying with the requirements. |  | Choose |

### S1.A1: Send CareCommunication with attached files

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Perform the action mentioned in test steps 3.3.1.1-3.3.1.6 |  | Test steps 3.3.1.1-3.3.1.6 have been performed again. |  | Choose |
|  | Demonstrate that the user can attach allowed file types that SUT supports as attachments to the message.  The user must not be able to attach other than the allowed file types.  An attachment can either be included a pdf or image or a URL to a webpage.  *The vendor is expected to bring one of each supported type of attachment for test.* |  | The user has attached the allowed file types as attachments to the message.  A list of [allowed file types can be accessed via the IG](https://medcomfhir.dk/ig/terminology/ValueSet-medcom-core-attachmentMimeTypes.html).  It is not possible to attach other than the allowed file types. |  | Choose |
|  | Demonstrate that the SUT automatically inserts message segments with the attached files. |  | Message segments are created and inserted for each attached file. |  | Choose |
|  | Demonstrate that the SUT automatically inserts title and ID in the attached files in the message segment. |  | The SUT has inserted title and ID in the attached files. |  | Choose |
|  | Demonstrate that the SUT automatically displays the title of the attached files to the user. |  | The user can see the title of the attached files. |  | Choose |
|  | *Go through this test step if SUT supports insertion of author’s name and time of creation for the attached files. It is optional to support this.*  Explain and demonstrate how the SUT handles insertion of author’s name and time of creation for the attached files.  *MedCom recommends that author’s name and time of creation of the attached file are added. System functionality automatically filling in author’s name and time of creation is optional. If this functionality is not implemented, the sender is recommended to add this information either in the attached file or as structured information in the message segment for the attached file.* |  | E.g.: “*The SUT supports structured boxes in the message segment for the attached file, where the user can write author’s name and time of creation of the attached file or SUT automatically inserts the information*.”  Author’s name and time of creation of the attached files are added and are visible. |  | Choose |
|  | Demonstrate that the SUT automatically inserts time of sending the message and attached files. |  | Time of sending is added to the message and the attached files. |  | Choose |
|  | Demonstrate that the SUT automatically inserts a unique communication identifier to the current message |  | A communication identifier is inserted in the Communication.identifier element as a UUID v4. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments for the current message. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S1.A2: Add topic in the topic box

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Demonstrate that a CareCommunication with the information from test steps 3.3.1.1-3.3.1.3 has been created. |  | The CareCommunication has been created correctly |  | Choose |
|  | Demonstrate that the user fills in the topic box with a topic of the user’s choosing. |  | Topic in the message’s topic box is filled in. |  | Choose |
|  | Demonstrate that the user writes free text in the message’s text box. |  | The user has written free text in the free text box. |  | Choose |
|  | Demonstrate that the system inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts a unique communication identifier to the current message. |  | A communication identifier is inserted in the Communication.identifier element as a UUID v4. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segment for the current message. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S1.A3: Select topic from the list of topics regionally agreed upon

*Go through these test steps if a list of regionally defined topics exists.*

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Demonstrate that a CareCommunication with the information from test steps 3.3.1.1-3.3.1.3 has been created. |  | The CareCommunication has been created correctly |  | Choose |
|  | Demonstrate that the user can select a topic from the list of regionally defined topics. |  | A list of defined topics is visible to the user and the user has selected a topic from the list. The topic is visible in the message. |  | Choose |
|  | *Go through this test step if an agreement on mapping between topics and categories is agreed on.*  Demonstrate that the SUT automatically inserts the category in the category box which is determined by the topic selected by the user. |  | The category which is mapped with the selected topic is automatically attached and visible in the category box. |  | Choose |
|  | Demonstrate that the user writes free text in the message text box. |  | The user has written free text in the free text box. |  | Choose |
|  | Demonstrate that the system inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts a unique communication identifier to the current message. |  | A communication identifier is inserted in the Communication.identifier element as a UUID v4. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segment for the current message. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S1.A4: Select category ”Andet”

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Demonstrate that a CareCommunication with the information from test steps 3.3.1.1-3.3.1.2 has been created. |  | The CareCommunication has been created correctly |  | Choose |
|  | Demonstrate that the user selects the category “Andet” (“other”) from the national list of categories. |  | The list of categories is visible to the user and the user has selected the category “Andet”. |  | Choose |
|  | Demonstrate that the user can write a topic in the topic box when the category “Andet” is selected. |  | Topic in the message’s topic box is filled in. |  | Choose |
|  | Demonstrate that the user writes free text in the message’s text box. |  | The user has written free text in the free text box. |  | Choose |
|  | Demonstrate that the system inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts a unique communication identifier to the current message. |  | A communication identifier is inserted in the Communication.identifier element as a UUID v4. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segment for the current message. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S1.A5 Select category ”Vedr. henvisning” and add priority

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Demonstrate that a CareCommunication with the information from test steps 3.3.1.1-3.3.1.2 has been created. |  | The CareCommunication has been created correctly |  | Choose |
|  | Demonstrate that it is not possible to add priority when the category is not “Vedr. henvisning” ("regarding referal”).  This accounts for all other categories, but documentation for one is accepted. |  | The user cannot select priority when the category is other than “Vedr. henvisning”. |  | Choose |
|  | Demonstrate that the user selects the category “Vedr. henvisning” from the national list of categories. |  | The list of categories is visible for the user and the user has selected ”Vedr. henvisning”. |  | Choose |
|  | Demonstrate that it is optional for the user to write a topic in the topic box. |  | Topic in the message’s topic box is not filled in. |  | Choose |
|  | In addition, demonstrate that the user can add priority when the category ”Vedr. henvisning” has been selected. |  | Priority is visible and in the message. |  | Choose |
|  | Demonstrate that the user writes free text in the message’s text box. |  | The user has written free text in the free text box. |  | Choose |
|  | Demonstrate that the system inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts a unique communication identifier to the current message. |  | A communication identifier is inserted in the Communication.identifier element as a UUID v4. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segment for the current message. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S2: Reply to a CareCommunication

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Load in the test data and demonstrate that a CareCommunication message has been received. | CareCommunication \_Ex\_send-A-new | The SUT has notified the user that a CareCommunication has been received. |  | Choose |
|  | Demonstrate that the user chooses to reply to the received CareCommunication. |  | The user has chosen to reply to the received message. |  | Choose |
|  | Demonstrate that the SUT automatically inserts references to the message it is a reply to. All previous message segments and Provenance instances must be included. |  | The SUT has generated a reply with the correct technical references to the previous message in the same communication flow as well as message segments for the reply. |  | Choose |
|  | Demonstrate that the SUT automatically inserts sender of the received CareCommunication, as the receiver. |  | The SUT has automatically added a receiver of the message. |  | Choose |
|  | Demonstrate that the SUT automatically inserts the same category and topic from the received message. |  | Category and topic from the received CareCommunication are automatically added to the reply. |  | Choose |
|  | Demonstrate that category and topic is visible to the user. |  | Category and topic are visible to the user. |  | Choose |
|  | Demonstrate that the user writes free text in the message’s free text box. |  | The user has written free text in the free text box. |  | Choose |
|  | Demonstrate that the SUT inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts same communication identifier from the received message in the reply. |  | The same communication identifier, as in the received message, is inserted. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the reply. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S2.A1: Reply to CareCommunication with attached files

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | ***The original message includes an attachment, but no further attachments are added*.**  Load in the test data and demonstrate that a CareCommunication with the information from test steps 3.3.7.1-3.3.7.7 has been created. | CareCommunication\_Ex\_send-B-new-attachment | Test steps 3.3.7.1-3.3.7.7 have been completed. |  | Choose |
|  | Demonstrate that the id and title of the attachment appear in the reply, and not the actual content. |  | Title and id of the initially sent attachment is included. Not the base-64-encoded data. |  | Choose |
|  | Demonstrate that the SUT inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts same communication identifier from the received message to the reply. |  | The same communication identifier, as in the received message, is inserted. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the reply. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Demonstrate that the SUT automatically inserts time of sending the message and the attached file. |  | Time of sending is added to the message and the attached file. |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |
|  | ***The original message includes an attachment, and more attachments are added***.  Load the test data and demonstrate that a CareCommunication with the information from test steps 3.3.7.1-3.3.7.7 has been created. | CareCommunication\_Ex\_send-C-new-attachment | Test steps 3.3.7.1-3.3.7.7 have been completed. |  | Choose |
|  | Demonstrate that the user can attach allowed file types that SUT supports as attachments to the message. |  | The user has attached the allowed file types as attachments to the message. |  | Choose |
|  | Demonstrate that the id and title of the attachment appears in the message on the initially sent attachment, and not the actual content. |  | Title and id of the initially sent attachment is included. Not the base-64-encoded data. |  | Choose |
|  | Demonstrate that the user can attach one or more new file to the reply. |  | The user has attached one or more allowed file type as attachment(s) to the message.  An overview of [allowed file types can be accessed via the IG](https://medcomfhir.dk/ig/terminology/ValueSet-medcom-core-attachmentMimeTypes.html). |  | Choose |
|  | Demonstrate that the SUT automatically inserts a new message segment to each attached file. |  | A new message segment for each attached file has been created and inserted. |  | Choose |
|  | Demonstrate that the SUT automatically inserts title and ID on each attached file. |  | The SUT has inserted title and ID on each attached file. |  | Choose |
|  | Demonstrate that the SUT automatically shows the title on each attached file for the user. |  | The user can see the title on each attached file. |  | Choose |
|  | *Go through this test step if SUT supports insertion of author’s name and time of creation for the attached files*  Explain and demonstrate how the SUT handles insertion of author’s name and time of creation for the attached files, cf. test step 3.3.2.6. |  | Name of author as well as time of creation of the attached file is added and visible. |  | Choose |
|  | Demonstrate that the SUT inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts time of sending the message and the attached file. |  | Time of sending is added to the message and the attached file. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the reply. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |
|  | ***The original CareCommunication includes no attachments, but one or more attachments are included in the reply.***  Load the test data and demonstrate that a CareCommunication with the information from test steps 3.3.7.1-3.3.7.7 has been created. | CareCommunication\_Ex\_send-D-new | Test steps 3.3.7.1-3.3.7.7 have been completed. |  | Choose |
|  | Demonstrate that the user can attach one or more new file(s) to the reply. |  | The user has attached one or more allowed file type as attachment(s) to the message.  An overview of [allowed file types can be accessed via the IG](https://medcomfhir.dk/ig/terminology/ValueSet-medcom-core-attachmentMimeTypes.html). |  | Choose |
|  | Demonstrate that the SUT automatically inserts a new message segment for each attached file. |  | A new message segment for each attached file has been created and inserted. |  | Choose |
|  | Demonstrate that the SUT automatically inserts title and ID on each attached file. |  | The SUT has inserted title and ID on each attached file. |  | Choose |
|  | Demonstrate that the SUT automatically shows the title on each attached file for the user. |  | The user can see the title on each attached file. |  | Choose |
|  | *Go through this test step if SUT supports insertion of author’s name and time of creation for the attached files*  Explain and demonstrate how the SUT handles insertion of author’s name and time of creation for the attached files, cf. test step 3.3.2.6. |  | Name of author as well as time of creation of the attached file is added and visible. |  | Choose |
|  | Demonstrate that the SUT inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts time of sending the message and the attached file. |  | Time of sending is added to the message and the attached file. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the reply. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S2.A2 Change category and topic

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Load test data and demonstrate that a CareCommunication with the information from test steps 3.3.7.1-3.3.7.7 has been created. | CareCommunication\_ Ex\_send-E-new | Test steps 3.3.7.1-3.3.7.7 have been completed. |  | Choose |
|  | Demonstrate that the user can change category and add a new topic in the reply. |  | The category has changed, and a new topic is added. |  | Choose |
|  | Demonstrate that the user writes free text in the message’s text box. |  | The user has written free text in the free text box. |  | Choose |
|  | Demonstrate that the SUT inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts same communication identifier from the received message to the reply. |  | The same communication identifier, as in the received message, is inserted. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the reply. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S2.A3: Reply to a received OIOXML or EDIFACT message with a CareCommunication

Go through these test steps if SUT supports replying to an OIOXML and/or EDIFACT message.

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Explain which MedCom messages in OIOXML/EDIFACT SUT can reply to with a CareCommunication. |  | E.g. “SUT can reply to a referral and discharge letter with a CareCommunication.” |  | Choose |
|  | Load the text example of a received MedCom message in the format of OIOXML and/or EDIFACT. | Select an OIOXML or EDIFACT file. | Test example is correctly loaded.  The SUT has notified the user that a MedCom message has been received. |  | Choose |
|  | Demonstrate that the user chooses to send a reply to the received MedCom message with a CareCommunication. |  | The SUT supports the reply to a received OIOXML or EDIFACT message with a new CareCommunication.  The user has chosen to reply to the received message with a CareCommunication. |  | Choose |
|  | Demonstrate that the SUT automatically adds the ID from the received message to the reply.  For example, episode of care identifier, referral ID or contact ID (depends on the received message type) is automatically used and sent in the reply. |  | The SUT has added the correct ID from the received message to the reply. |  | Choose |
|  | Demonstrate that the SUT automatically inserts sender of the received message, as the receiver, via look-up in SOR. |  | The SUT has automatically inserted the correct receiver of the reply. |  | Choose |
|  | Demonstrate that the user can add a category and topic, if relevant, on the reply. |  | Category is added and is visible to the user. |  | Choose |
|  | Demonstrate that the user writes free text in the message’s text box. |  | The user has written free text in the free text box. |  | Choose |
|  | Demonstrate that the SUT inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts same communication identifier from the received message to the reply. |  | The same communication identifier, as in the received message, is inserted. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the reply. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  |  |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S2.A4: Reply to own most previously sent message

*Go through these test steps if SUT supports replying to own most previously sent CareCommunication*

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Demonstrate that the user chooses to reply to own most previously sent CareCommunication. |  | The user has chosen to reply to the systems own most recently sent message. |  | Choose |
|  | Demonstrate that the SUT automatically inserts references to the previously sent message from the same communication flow as well as message segments for the reply. |  | The SUT has generated a reply with the correct technical references to the previous messages in the same communication flow as well as message segments for the reply. |  | Choose |
|  | Explain how the receiver of the previously sent CareCommunication is inserted as the receiver of the current reply.  *It is up to the SUT how the receiver of the reply is inserted in the message. This can be inserted automatically by the SUT or manually by the user.* |  | For example, the SUT has automatically insertedthe receiver of the previously sent CareCommunication to the current reply. |  | Choose |
|  | Demonstrate that the SUT automatically inserts the same category and, if filled in, topic from the received message. |  | Category and topic from the received CareCommunication are automatically added to the reply. |  | Choose |
|  | Demonstrate that category and, if filled in, topic is visible to the user. |  | Category and topic are visible to the user. |  | Choose |
|  | Demonstrate that the user writes free text in the message’s free text box. |  | The user has written free text in the free text box. |  | Choose |
|  | Demonstrate that the SUT inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts same communication identifier from the sent message to the reply. |  | The same communication identifier, as in the sent message, is inserted. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the reply. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S3: Forward CareCommunication

*Go through these test steps if SUT supports forwarding CareCommunications.*

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Load the test data and demonstrate that a CareCommunication message has been received. | CareCommunication\_ Ex\_send-H-new | The SUT has notified the user that a CareCommunication has been received. |  | Choose |
|  | Demonstrate that the user chooses to forward the message. |  | A message to be forwarded has been created. |  | Choose |
|  | Explain how the SUT handles the forwarding when the user chooses to forward a CareCommunication.  *It is optional if the system supports forwarding the entire message thread as well as selected parts of the message thread.* |  | For example, the user has chosen to forward the whole message thread to a new receiver. |  | Choose |
|  | Demonstrate that the SUT, in the message to be forwarded, automatically inserts and displays references to the previous message(s) from the same communication flow as well as message segments, meaning message text and signature from the original sender and, if relevant, attached files including ID, title and base-64-encoded content. |  | The SUT has created a forward CareCommunication with the correct technical references to the previous messages from the same communication flow as well as message segments. |  | Choose |
|  | Demonstrate that the SUT automatically inserts the same category and, if filled in, topic from the received message. |  | Category and topic from the received CareCommunication are automatically inserted in the forwarded CareCommunication. |  | Choose |
|  | Demonstrate that category and, if filled in, topic is visible to the user. |  | Category and topic are visible to the user. |  | Choose |
|  | Demonstrate that the user must insert a new receiver to forwarded message. |  | A receiver has been added to the message to be forwarded. |  | Choose |
|  | Demonstrate that the user writes the reason for the forward and, if relevant, additional text in the message’s text box. |  | A new message segment has been generated and includes the reason for the forward and, if relevant, additional text in the message’s text box. |  | Choose |
|  | Demonstrate that the system inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts new communication identifier to the forwarded message. |  | The SUT has inserted a new communication identifier to the forwarded message. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the forwarding. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S3.A1: Forward CareCommunication with attached files

*Go through these test steps if SUT supports forwarding CareCommunications.*

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Load test data and demonstrate that a CareCommunication with the information from test steps 3.3.12.1-3.3.12.8 has been created. | CareCommunication\_ Ex\_send-I-new-attachment | Test steps 3.3.12.1-3.3.12.8 have been completed. |  | Choose |
|  | Demonstrate that the user can attach a new file to the message. |  | The user has attached an allowed file type as attachment to the message.  An overview of [allowed file types can be accessed via the IG](https://medcomfhir.dk/ig/terminology/ValueSet-medcom-core-attachmentMimeTypes.html). |  | Choose |
|  | Demonstrate that the SUT automatically inserts a new message segment with the attached file to the message. |  | A new message segment for the attached file has been created and inserted. |  | Choose |
|  | Demonstrate that the SUT automatically inserts title and ID on the attached file. |  | The SUT has inserted title and ID on the attached file. |  | Choose |
|  | Demonstrate that the SUT automatically displays the title of the attached files to the user. |  | The user can see the title of the attached files. |  | Choose |
|  | *Go through this test step if SUT supports insertion of author’s name and time of creation for the attached files*  Explain and demonstrate how the SUT handles insertion of author’s name and time of creation for the attached files, cf. test step 3.3.2.6. |  | The name of the author and time of creation of the attached file are added and visible. |  | Choose |
|  | Demonstrate that the system inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts the time the message and the attached files are sent. |  | The time of the sent message is added to the message and the attached files. |  | Choose |
|  | Demonstrate that the SUT automatically inserts new communication identifier to the forwarded message. |  | The SUT has inserted a new communication identifier to the forwarded message. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the forwarding. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S3.A2: Change category and topic in a forwarded message

*Go through these test steps if SUT supports forwarding CareCommunications.*

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Load test data and demonstrate that a CareCommunication with the information from test steps 3.3.12.1-3.3.12.6 has been created. | CareCommunication\_ Ex\_send-J-new-change | Test steps 3.3.12.1-3.3.12.6 have been completed. |  | Choose |
|  | Demonstrate that the user can change category and write a new topic in forwarded message. |  | Category has been changed and a new topic has been added to the forwarded message. |  | Choose |
|  | Demonstrate that the user must select a new receiver of the message to be forwarded. |  | A new receiver has been added to the forwarded message. |  | Choose |
|  | Demonstrate that the user writes the reason for the forward and additional text in the message’s text box. |  | A new message segment has been generated and it includes the reason for the forward and additional text in the message’s text box. |  | Choose |
|  | Demonstrate that the system inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts new communication identifier to the forwarded message. |  | The SUT has inserted a new communication identifier to the forwarded message. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the forwarding. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

### S3.A3: Forward a specific part of a CareCommunication thread

*Go through these test steps if the SUT has implemented the option to select which parts of the message string and attached files that should be forwarded.*

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Load test data and demonstrate that a CareCommunication with the information from test steps 3.3.12.1-3.3.12.4 has been created. | CareCommunication\_ Ex\_send-K-forward | Test steps 3.3.12.1-3.3.12.4 has been completed. |  | Choose |
|  | Demonstrate that the user chooses to forward a specific CareCommunication message, received with attached files, which are part of the message string. |  | The user has the option to forward a specific message from the message string. |  | Choose |
|  | Demonstrate that the SUT automatically inserts the same category and, if filled in, topic from the received message. |  | Category and topic from the received CareCommunication are automatically inserted in the reply. |  | Choose |
|  | Demonstrate that category and, if filled in, topic is visible to the user. |  | Category and topic are visible to the user. |  | Choose |
|  | Demonstrate that the user selects which files that should be attached and sent. |  | The user can select which files from previous messages that should be attached and forwarded. |  | Choose |
|  | Demonstrate that the SUT automatically inserts new message segments with the attached files to the message. |  | Message segments for the attached files have been created and inserted. |  | Choose |
|  | Demonstrate that the SUT automatically inserts title and ID on the attached file. |  | The SUT has inserted title and ID on the attached file. |  | Choose |
|  | Demonstrate that the SUT automatically displays the title of the attached files to the user. |  | The user can see the title of the attached files. |  | Choose |
|  | *Go through this test step if SUT supports insertion of author’s name and time of creation for the attached files*  Explain and demonstrate how the SUT handles insertion of author’s name and time of creation for the attached files, cf. test step 3.3.2.6. |  | The name of the author and time of creation of the attached file are added and visible. |  | Choose |
|  | Demonstrate that the user must insert a new receiver to the forwarded message. |  | A receiver has been added to the message to be forwarded. |  | Choose |
|  | Demonstrate that the user writes the reason for the forward and, if relevant, additional text in the message’s text box. |  | A new message segment has been generated and includes the reason for the forward and, if relevant, additional text in the message’s text box. |  | Choose |
|  | Demonstrate that the system inserts and displays the following information as the signature of the sender in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | The signature of the author of the message is inserted and visible for the user in the message’s message segment:   * Date and time * Author’s name * Role * Relevant phone number |  | Choose |
|  | Demonstrate that the SUT automatically inserts the time the message and the attached files are sent. |  | The time of the sent message is added to the message and the attached files. |  | Choose |
|  | Demonstrate that the SUT automatically inserts new communication identifier to the forwarded message. |  | The SUT has inserted a new communication identifier to the forwarded message. |  | Choose |
|  | Demonstrate that the SUT automatically inserts technical references between Provenance and message segments in the current message and historically (containing previously provenances) to the forwarding. |  | Correct technical references to the message segments (Communication.payload.extension: valueIdentifier) are inserted in the Provenance (Provenance.entity.role). |  | Choose |
|  | Send the message to a receiver once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical references. |  | The message is filled in correctly and sent to the correct receiver. |  | Choose |

## Test of general technical requirements

The purpose of these test steps is to ensure that the technical sending of a CareCommunication is implemented with satisfactory quality, i.e., that it meets the governance for message communication on a general level as well as governance for CareCommunication as described in 1.4 Background materialBackground materia.

### Test of requirements for content and recommendations

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | **Sender and recipient**  Explain the use of recipient (Communication.recipient) and to what degree it is possible for the user to add a more specific recipient than the one included as receiver (MessageHeader.destination.receiver). |  | For example, “*the end user can add a person or name a CareTeam as recipient*.” |  | Choose |
|  | Explain the use of specific sender (Communication.extension.sender) and to what degree it is possible for the user to add a more specific sender than the one indicated for sender (MessageHeader.sender). |  | For example, “*the user can add a person or name a CareTeam as sender.*” |  | Choose |
|  | *Test steps* 3.3.1.1-3.3.1.7 *must be completed if the SUT user is able to add a sender or recipient.*  Create a CareCommunication message. |  | Test steps 3.3.1.1-3.3.1.7 have been completed. A CareCommunication message has been created. |  | Choose |
|  | Add specific sender and/or recipient. |  | Sender and/or recipient has been added. |  | Choose |
|  | Demonstrate that the message can be sent once the message reaches the requirements for content as well as maximum limitation of 100 MB and includes correct technical correspondence string. |  | The message is filled in correctly and sent.  The correspondence string is automatically enclosed. |  | Choose |
|  | **Time**  Explain when the following timestamps are added in the SUT’s generation of a message:   * Communication.payload.extension.date * Bundle.timestamp * Provenance.occurredDateTime * Provenance.recorded * Communication.payload. contentAttachment.creation (optional and only relevant for attachments)   *Read more about the* [*timestamps here*](https://medcomfhir.dk/ig/carecommunication/#timestamps)*.* |  | For example: “*Communication.payload. ContentAttachment.creation indicates date of creation of an attached file. The other timestamps are identical.*” |  | Choose |
|  | Based on test data from section 3.3.7, demonstrate that the   * Bundle.timestamp is updated when a reply is sent * Communication.payload.extension.date for the previous message segment(s) is unchanges * Communication.payload.extension.date for the new message segment is new   *It is allowed to update the Provenance.occurredDateTime and Provenance.recorded in the previous Provenance instances.* |  | Bundle.timestamp and Communication.payload.extension.date for the new message segment are new, whereas Communication.payload.extension.date for the previous message segment(s) are unchanged. |  | Choose |
|  | Based on test data from section 3.3.12, demonstrate that the   * Bundle.timestamp is updated when a forwarded message is sent * Communication.payload.extension.date for the previous message segment(s) is unchanges * Communication.payload.extension.date for the new message segment is new   *It is allowed to update the Provenance.occurredDateTime and Provenance.recorded in the previous Provenance instances.* |  | Bundle.timestamp and Communication.payload.extension.date for the new message segment are new, whereas Communication.payload.extension.date for the previous message segment(s) are unchanged. |  | Choose |
|  | **Use of EpisodeOfCareIdentifier**  A patient can have an EpisodeOfCare-identifier (DK: forløbsID) that is related to, for example an admission.  If relevant, demonstrate how SUT includes the EpisodeOfCare-identifier in a CareCommunication message. If an EpisodeOfCare-identifier is included, the elements Encounter.status and Encounter.class must also be populated.  *Read more about* [*EpisodeOfCare-identifiers here*](https://medcomdk.github.io/MedCom-FHIR-Communication/assets/documents/080_Governance-for-episode-of-care-identifiers.html)*.* |  | SUT includes an EpisodeOfCare-identifier in the CareCommunication. |  | Choose |
|  | Explain whether SUT includes the LPR3-identifier or a locally defined identifier.  *It is allowed to include both an LPR3-identifier or a locally defined identifier.* |  | E.g.: “*SUT includes a locally defined EpisodeOfCare-identifier when it is relevant for the communication.*” |  | Choose |
|  | When replying to CareCommunication with an EpisodeOfCare-identifier, SUT must include the EpisodeOfCare-identifier in the reply.  Demonstrate that SUT includes the EpisodeOfCare-identifier in the reply. | CareCommunication\_Ex\_send-Tek-A-new-episodeOfCare | The EpisodeOfCare-identifier from the original message is included in the reply. |  | Choose |
|  | *Complete if SUT supports forwarding:*  When forwarding to CareCommunication with an EpisodeOfCare-identifier, SUT must include the EpisodeOfCare-identifier in the forwarding.  Demonstrate that SUT includes the EpisodeOfCare-identifier in the forwarding. | CareCommunication\_Ex\_send-Tek-B-new-episodeOfCare | The EpisodeOfCare-identifier from the original message is included in the forwarding. |  | Choose |
|  | **Replacement-CPR:**  A CareCommunication may be sent on patients with a replacement-CPR (DA: erstatnings-CPR).  Create a new CareCommunication and demonstrate how and which type SUT includes the information about the replacement-CPR in a CareCommunication message.  Read more about [replacement-CPR here](https://medcomfhir.dk/ig/core/StructureDefinition-medcom-core-patient.html#patient-identifiers). |  | SUT correctly includes the replacement-CPR in the CareCommunication. |  |  |
|  | **Narrative text:**  All instances in CareCommunication include a narrative text.  The narrative text must include the element marked with isSummary and MustSupport in the CareCommunication IG. Therefore, must the base-64encoded content of the attachment not be included.  *Read more about the* [*narrative text here*](https://medcomdk.github.io/MedCom-FHIR-Communication/assets/documents/050_Governance-for-MedCom-FHIR-Messages.html#6-narrative-texts)*.* |  | Elements marked with both IsSummary and MustSupport are included in the narrative text. The base-64encoded content of an attachment is not included. |  | Choose |
|  | **Linebreak:**  Demonstrate that the SUT supports linebreaks, marked with <br/>, in the free text box of the message (Communication.payload:string.content).  *Read more about the* [*linebreaks here*](https://medcomdk.github.io/dk-medcom-carecommunication/assets/documents/Clinical-guidelines-DA.html)*.* |  | SUT supports and displays linebreaks correctly in the free text box of the message. |  | Choose |
|  | **Attachments:**  Explain which type of attachments SUT support sending.  An attachment can either be included a pdf or image or a URL to a webpage.  *Read more about the* [*attachment here*](https://medcomfhir.dk/ig/carecommunication/StructureDefinition-medcom-careCommunication-communication.html#content-of-the-message-segments)*.* |  |  |  | Choose |
|  | **Contained Bundle:**  Demonstrate that all references to other instances are internal in a Bundle, meaning that references must be to instances outside the CareCommunication message. |  | All referenced instances in the CareCommunication are included in the Bundle. |  | Choose |

### References to previous messages / Use of Provenance

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | When replying to a message, the following must be included from previous messages. Based on test data from section 3.3.7, demonstrate that the:   * Message segments from the previous message (incl. id and title of attachments, message text and author signature) are include in the Communication instance. * Addition of a new Provenance instance belonging to the new message, which refers to MessageHeader.id from the previous message. * Remaining of the previous Provenance instance with correct references. |  | All message segments are in the same instance of Communication.payload, the previous Provenance instances and a new instance of Provenance is added with the correct references to the previous MessageHeader.id of the previous message. |  | Choose |
|  | When forwarding a message, the following must be included from previous messages. Based on test data from section 3.3.12, demonstrate that the:   * Message segments are in the same Communication instance, which include attachments, message text and related author. * Addition of a new Provenance instance belonging to the new message, which also refers to MessageHeader.id from the previous message. * Remaining of the previous Provenance instance with correct references.   *Note: If a selected part of the message thread is included in the forwarding (S3.A3), only the selected message segments and associated Provenance instances must be included.* |  | All message segments are in the same instance of Communication.payload, the previous Provenance instances and a new instance of Provenance is added with the correct references to the previous MessageHeader.id of the previous message. |  | Choose |

### Check of message size

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | Demonstrate that a CareCommunication with the information from test steps 3.3.1.1-3.3.1.6 has been created. |  | A CareCommunication message has been created correctly. |  | Choose |
|  | Add attached files and text, making the total message size exceed 100 MB or another limit defined by the vendor, which ensures that the message will not be sent. This limit must be close to 100 MB, e.g. 98 MB to ensure room for the embedment in VANS-envelope. |  | Attached files and text, exceeding 100 MB in total, have been added to the message. |  | Choose |
|  | Demonstrate that the user is informed about that the message cannot be sent, as the message exceeds 100 MB. |  | The user is informed that the message cannot be sent, as the size limit for the message has been exceeded. |  | Choose |
|  | Demonstrate that the message cannot be sent. |  | The message cannot be sent. |  | Choose |
|  | Demonstrate that the message can be sent when the message meets the requirements for content and a maximum size of 100 MB. |  | The message can now be sent to the correct receiver. |  | Choose |
|  | Explain how the SUT checks that the message cannot be sent if the size exceeds the maximum of 100 MB. |  | For example, the message’s total size is checked before sending. |  | Choose |

### Embedment and send in a VANSEnvelope.

| **Test step #** | **Action** | **Test data/test person** | **Expected result** | **Actual result** | **MedCom assessment** |
| --- | --- | --- | --- | --- | --- |
|  | **Identify receiver**  Explain how correct receiver is selected and added to the message. |  | For example, SOR look-up. |  | Choose |
|  | **Correct embedment of message in VANSEnvelope**  Demonstrate that a CareCommunication with the information from test steps 3.3.1.1-3.3.1.5 has been created. |  | A CareCommunication message has been created correctly. |  | Choose |
|  | Demonstrate that the message is embedded in a VANSEnvelope and contains a postfix with the category in the name element.  ***Note****: Specifications of in the VANSEnvelope are described in ’Governance for MedCom FHIR messaging’.* |  | The message is valid and embedded correctly in a VANSEnvelope.  VANSEnvelope contains:   * Format * Name (incl. postfix with the category) * Version * ServiceTag |  | Choose |