

HospitalNotification

MedCom FHIR standard

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1 Introduction

This is the textual part of the documentation for MedCom's FHIR-standard 'Hospital Notification'. It includes purpose, background and overall requirements for content and business-related use of 'Hospital Notification'. The target group is IT-system vendors and those responsible for implementation in the regions and municipalities, who will technically support the sending and receiving of 'Hospital Notification'. The requirements for content and business-related use of 'Hospital Notification' are prepared in collaboration with MedCom's 'homecare-hospital group' ([hjemmepleje-sygehusgruppe](#)) and 'municipality-hospital vendor group' ([kommune-sygehusleverandørgruppe](#)) in the MedCom11 project period 2018-2019.

The technical specifications for the FHIR notification standard can be found via <https://simplifier.net/medcom-fhir-messaging>. This document is also available in Danish¹

The 'Hospital Notification' replaces the previous MedCom standards, Notification of Admission DIS20/XDIS20 and Notification of Discharge DIS17/XDIS17.

2 Purpose

The 'Hospital Notification' contributes to securing the foundation for a coherent clinical pathway across sectors. The specific purpose of the 'Hospital Notification' is to inform the citizen's current care and health provider in the primary sector about the start and end of the citizen's stay at the hospital. It makes it possible to pause the current care and health providers' services during the hospital stay and resume them when it ends. At the same time, the 'Hospital Notification' can trigger the automatic sending of Report of Admission (XDIS16) from the receiver's system, which gives the health professionals an overview of the citizen's current services, level of function and health related problems. The Hospital Notification also contains notification of the patient's leave from the hospital stay and acute ambulant care.

3 Background

As the hospital is not able to determine in advance which citizens currently receive services from the primary sector, a 'Hospital Notification' is generated for all citizens with a personal identification number (CPR) and home address in Denmark when registered in the hospital's EPR system. The receiving system ensures that the 'Hospital Notification' stay is only downloaded and shown for citizens receiving services within the valid legal framework (see Section 4).

Registration of hospital stays in the EPR system are linked to the reporting to the National Patient Registry, LPR. By transition to LPR3 (2019), the concepts 'admitted' and 'outpatient' are removed in the reporting to LPR and replaced by physical attendance. In practice, all regions continue to register

¹ In case of any discrepancies between the two documents, the Danish document is the document in force.

the hospital stay as outpatient and admission, respectively. It is agreed among the parties behind the development of the modernised hospital notification that the scope of the hospital stays, which will be supported by a notification, is:

“All current hospital stays with physical attendance by the patient and all planned hospital stays with physical attendance by the patient for the purpose of admission”.

4 Legal framework

Notifications of hospital stay are exchanged on the basis of the Danish Health Act and the Due Process of Law Act §12c:

“For the use of planning of care services etc after § 79 a and chapter 16 in the social services and health care act as well as for follow-ups of cases after §§ 8-10 in the act on sickness benefits, the municipal council and hospital can exchange information about citizens admission and discharge from hospitals within the municipality. Exchange can happen automatic and without the consent of the citizen.” (Retssikkerhedsloven 12c LBK nr. 826 af 16/08/2019)

The service act §79 a includes preventive home visits and chapter 16 includes §§ 81-99, which covers *Personal help, care and nursing as well as care wills*.

An amendment to the legal security act §12c is expected to come into effect 1. January 2022 and will also include acute ambulant hospital stay.

5 ‘Hospital Notification’: requirements for content and benefits

A ‘Hospital Notification’ must include:

1. The patient’s personal identification number (CPR)
2. Time and date for start/end of the hospital stay
3. Name of the hospital department/ward and hospital
4. Specification if the notification should trigger an admission report from the receiver of the notification
5. Specification of where the admission report should be sent
6. Status of hospital stay (cf. Table 1).

| Event | Code ² | Name of notification | Benefits |
|----------------------------------|-------------------|--|---|
| Start stay | | | |
| Acute ambulant care start | STAA | START hospital stay – Acute ambulant care | The receiver is informed that the citizen is registered as ‘acute ambulant’ at the hospital. The specific status allows the receiving system to set rules for the system management. |
| Admitted to hospital | STIN | START hospital stay – admission | The receiver is informed that the citizen is registered as ‘admitted to hospital’. The specific status allows the receiving system to set rules for the system management. |
| End stay | | | |
| Patient discharged and sent home | SLHJ | END hospital stay – patient discharged and sent home/to primary sector | The receiver is informed that the citizen’s hospital stay is ended and is transferred to either home or primary sector. It allows the receiving system to set rules for the system management, for example resuming care services. Not used for transfer. |
| Death | | | |
| The patient is dead | MORS | DEATH | The receiver is informed that the citizen is dead. Used both if dead at arrival and dead during the hospital stay. |
| Leave | | | |
| The patient starts leave | STOR | START leave | Information about current leave is useful when/if relatives/the citizen reaches out during the leave. The treatment responsibility for the patient on leave lies at the hospital and must be communicated separately if actors other than the hospital delivers care services during the patient’s leave. |
| The patients ends leave | SLOR | END leave | |
| Cancellations | | | |
| Cancellation | ANXX | CANCELLED ‘Name of notification’ | Cancellation of previously sent notifications annuls it. Is used in case of wrong choice of hospital stay or wrong personal identification number (CPR). |
| Corrections | | | |
| Corrections | REXX | CORRECTED ‘Name of electronic notification’ | Corrects content in previously sent notifications, for example hospital department or time. |

Tabel 1 Status of hospital stay

² Danish code names, which can relates to notification overview integrated to HL7/FHIR.

6 Business rules for use of 'Hospital Notification'

The purpose of the outlined business rules for use of the 'Hospital Notification' is that the actors³ who use the notification, use the messages as intended. Business rules are a supplement to the standard for 'Hospital Notification' and can be updated as the needs change.

1. Electronic notifications are generated based on real-time registration in the EPR/PAS system

If EPR/PAS uses future registrations of planned contacts, these should trigger the electronic notification only when the time occurs, i.e. at the patient's physical attendance.

2. Ended hospital stay (admission and acute ambulant care) is only used when the patient is discharged (and sent home/to primary sector)

Notification of 'ENDED hospital stay' cannot be used in case of transfer⁴.

3. If an acute ambulant stay is changed to the patient being admitted, a new 'START hospital stay – admission' notification is sent.

No notification on 'ENDED hospital stay' should be sent when the acute ambulant stay changes to the patient being admitted. Notification on 'ENDED hospital stay' is sent when the patient is subsequently discharged (sent home/to primary sector).

4. If an admission changes to acute ambulant care, a new 'START hospital stay – acute ambulant care' notification is sent.

No notification on 'ENDED hospital stay' should be sent when the admission changes to acute ambulant care. Notification on 'ENDED hospital stay' is sent when the patient is subsequently discharged (sent home/to primary sector). This occurrence is seen as rare.

5. If the patient is declared dead on arrival, after arrival or during the hospital stay, the notification of the type 'DEATH' is sent.

The notification type 'DEAD' should be used in all cases where the patient is dead or dies.

6. If the patient is registered as on leave in the EPR, the notification is sent when the patient starts ('START leave') or finishes ('END leave') their leave (at home).

Leave notifications is only sent when the patient is registered as being on leave at home. In case of a double admission⁵, leave should therefore not trigger a leave notification. Leave notifications should not activate care services in the municipality unless otherwise agreed.

7. If an incorrect registration has happened, which has caused an incorrect electronic notification, a correction or cancellation must be sent on the following principles:

³ Private hospitals can also use hospital notifications

⁴ If the patient is responsible for transport from hospital A to hospital B him-/herself, END hospital stay can be used. The planned transfer should be communicated to the receiver in the care process plan or in a correspondence message.

⁵ Admission in psychiatric and somatic departments at the same time.

- a. If a notification has been sent because of wrongly entered personal identification number (CPR) or wrong choice of hospital stay, a cancellation is sent.
- b. If a notification with the wrongly stated hospital department or time of stay is sent, a correction is sent, i.e. a new correct notification that replaces previous notifications. A cancellation is not sent prior to the correction.

8. No specific transfer notification is used. A requirement is made that new notifications with 'START hospital stay' is sent from the hospital, which the patient is transferred **to**, either if it is in the same region or another region. No notification is sent from the hospital, which the patient is transferred **from**⁶.

9. Discharge to hospice

Same flow as for transfer to another hospital in the same or another region is used. Hospice sends 'START hospital stay – admission' when the patient arrives.

7 Use cases

For use of the technical implementation of the 'Hospital Notification', use case descriptions in more details exist. They connect content requirements with the business-related use for sender and receiver of the Hospital Notification. The use cases can be found <https://simplifier.net/medcom-fhir-messaging>.

8 Technical specifications for 'Hospital Notification'

The FHIR profile for hospital notification can be found via <https://simplifier.net/medcom-fhir-messaging>.

⁶ If the patient is responsible for transport from hospital A to hospital B him-/herself, END hospital stay can be used. The planned transfer should be communicated to the receiver in the care process plan or in a correspondence message.

9 Example of a Hospital Notification

| NOTIFICATION OF HOSPITALIZATION | |
|--------------------------------------|--|
| Patient | |
| Personal Identification Number (CPR) | XXXXXX-XXXX |
| Date and Time | 12-11-19 at 13:51 |
| Status of hospital stay | Start hospital stay – admitted to hospital |
| Receiver | |
| Location no. | 5790000121441 |
| Municipality no. | 461 |
| Unit | Æbleblomsten |
| Department | Home health care |
| Organisation | City of Odense |
| Sender | |
| Location no. | 5790001354145 |
| SOR ID | 239201000016001 |
| Unit | Q |
| Department | Infektionsmedicinsk Afdeling |
| Organisation | Odense University Hospital |

This is an example of what the Hospital Notification could look like. In the notification, the 'status on hospital stay' will indicate which event has caused the electronic notification, see Table 1.

10 Corrections

In this part, the corrections for the document will be documented continuously.

| Version | Date | Responsible | Description |
|---------|------------|----------------------|--|
| 0.6 | 03.10.2019 | Jeanette Jensen | 1. Outline of textual description of FHIR-notification standard |
| 0.7 | 11.12.2019 | Jeanette Jensen | Added note about handling discharge to hospice. |
| 0.8 | 31.03.2020 | Jeanette Jensen | Link in section 8 added. Date added and 0.8 version number. |
| 0.9 | 24.06.2020 | KML | End of hospital stay is removed from table 1. Updated section about legal security act, added note about private hospitals. SOR ID is adjusted in example. |
| 0.9.1. | 09.10.2020 | Jeanette Jensen | Added SLAN to End hospital stay |
| 1.0 | 26.01.2021 | Jeanette Jensen | SLAN type of End hospital stay and business rules for use of SLAN is deleted. Clarification of pkt. 4 legal basis and addition of links. |
| 1.0.1 | 02.11.2021 | Mie B. D. Kristensen | Minor lingual corrections |