USE CASES

HospitalNotification

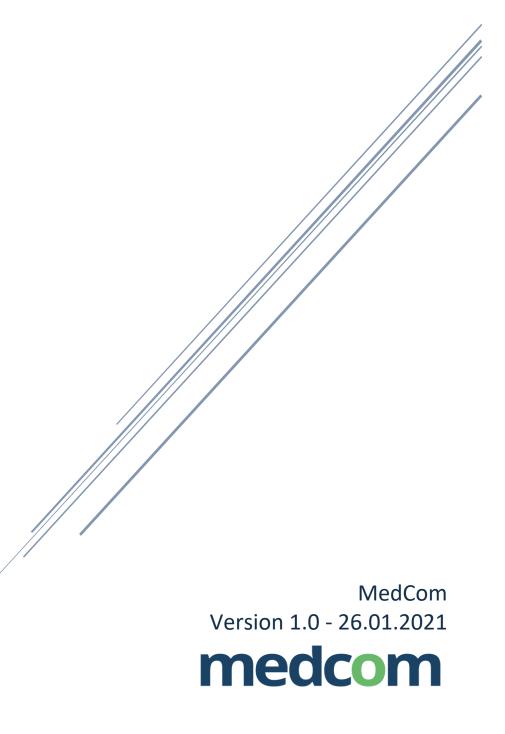


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1 Introduction

This document contains a number of use case descriptions and is part of the documentation of MedCom's FHIR-standard "HospitalNotification".

The documentation consists of 3 parts, accessible via: https://simplifier.net/MedCom-FHIR-Messag-ing:

- 1. 'HospitalNotification' Clinical guidelines
- 1. HospitalNotification' FHIR Profile
- 2. Use cases (this document also available in Danish¹)

The use case descriptions should therefore be read together with the rest of the documentation.

The use case descriptions combine content requirements with business regulations for use and should ensure a coherent implementation and use of the 'HospitalNotification'. The use cases are qualified in collaboration with EPR- and vendors catering to the municipalities.

The use case descriptions are targeted IT system vendors and the people responsible for the implementation in regions and municipalities.

Currently, the use case descriptions do not include the consignment of hospital notifications for several recipients and the following communication flow containing home care-hospital notifications.

1.1 Method for use case descriptions

The use cases are made from <u>KOMBIT's metodehåndbog for use cases</u>. Every case consists of the following elements. A definition for both business-related (part 2) and technical (part 3) use cases can be found in the following as well.

Element	Explanation
ID	Unique ID
Name	Activity in city area
Initiator	Name of the initiator (could be the user, (nurse or medical secretary) or System actor (i.e. received notification)
Purpose, description and demarcation	Short description of the business-related purposes, possible demarcation related to other use cases.
Conditions for initiation	Preconditions which must be fulfilled in order for the standard procedure to run its course until the end.
Reason for initiation	The event that prompts the participant's actions in the standard procedure.
Actions	The sequence of actions which, without interruption, leads from the first initiation to the end result.
Result	The targeted business-related goal
Alternative actions	Alternative procedures diverging from the standard procedure which ends in error or with resumption.

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

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1.2 Types of notifications and codes in HospitalNotification

In the use case descriptions, the following codes are used for different types of hospital notifications. There is prepared a separate code overview, which shows the connection between notification codes and FHIR terminology (link to code overview).

Code	Name of notification
STAA	Start hospital stay – Acute ambulant care
STIN	Start hospital stay- Admission
SLHJ	End hospital stay – patient discharged and sent home/to primary sector
STOR	Start leave
SLOR	End leave
MORS	Death
AN_STAA	Cancellation of acute ambulant stay
RE_STAA	Correction of acute ambulant stay
AN_STIN	Cancellation of admission
RE_STIN	Correction of admission
AN_SLHJ	Cancellation of End of hospital stay
RE_SLHJ	Correction of End of hospital stay
AN_STOR	Cancellation of Start leave
RE_STOR	Correction of Start leave
AN_SLOR	Cancellation of End leave
RE_SLOR	Correction of End leave
AN_MORS	Cancellation of Death
RE_MORS	Correction of Death

1.3 Use cases

The use case descriptions are divided into business-related use cases and technical use cases. The technical use cases are general use cases which are activated in the different actions that are described in the business-related use cases. To each of the business-related use cases, another use case is connected that respectively cancels and corrects the use case in question².

In section 2 is an overview of the patient journeys and their connection to use cases. These are followed by business-related use cases (section 3) and technical use cases (section 4). All use cases are divided into:

- a. Sender (hospital)
- b. Recipient (relevant recipient, typically the municipality)

² A General remark on cancellations/corrections: The same ID is used in case of cancellation/correction as in the original notification. This way, the recipient can easily connect the two messages unequivocally. When the patient's hospital stay has ended and a notification [SLHJ] has been sent, it is no longer necessary to use notifications with corrections and cancellations, unless the correction/cancellation is related to that exact notification [SLHJ].

2 Patient journeys and use cases

2 Fatient journeys and use cases			
	Patient sta-	Sender	Receiver
	tus		almal
Patient journey		Use cases	Use cases
Start sygehusopl	hold		
The patient is admitted	STIN	<u>S1</u>	<u>K1</u>
The patient is in an emergency outpatient setting at the	STAA	<u>S2</u>	<u>K2</u>
hospital			
Orlov			
The patient goes on leave from hospital stay	STOR	<u>S4</u>	<u>K4</u>
The patient returns to the hospital after leave	SLOR	<u>S5</u>	<u>K5</u>
The patient is absent after leave	SLHJ	<u>S3</u>	<u>K3</u>
Overflytning			
The patient is transferred to another department at the	STIN	<u>S6.1</u>	No notifica-
same hospital		<u>S6.2</u>	tion
The patient is transferred to another hospital in the same	STIN	<u>S7.1a</u>	<u>K7</u>
region		<u>\$7.2</u>	
Transport responsibility: Hospital			
The patient is transferred to another hospital in the same	SLHJ	<u>S7.1b</u>	<u>K3</u>
region	STIN	<u>\$7.2</u>	<u>K1</u>
Transport responsibility: Patient			
The patient is transferred to another hospital in another re-	STIN	<u>S8.1a</u>	<u>K8</u>
gion		<u>S8.2</u>	
Transport responsibility: Hospital			
The patient is transferred to another hospital in another re-	SLHJ	<u>S8.1b</u>	<u>K3</u>
gion	STIN	<u>S8.2</u>	<u>K1</u>
Transport responsibility: Patient	07111		1/10
The acute ambulant patient is admitted	STIN	<u>S10</u>	<u>K10</u>
	Afslutning af sygehusophold		
The patient is discharged to home	SLHJ	<u>S3</u>	<u>K3</u>
The patient is discharged to hospice	SLHJ ³	As a transfer	As a transfer
		S7.1 - S8.1	K7-K8
Manually end the patient's hospital stay (municipality) <u>K11</u>		<u>K11</u>	
Død			
The patient dies upon arrival at the hospital	MORS	<u>\$9.1</u>	<u>K9.1</u>
The patient dies at the hospital	MORS	<u>\$9.2</u>	<u>K9.1</u>
The patient dies during leave	MORS	<u>S9.3</u>	<u>K9.2</u>

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³ The patient is discharged but no notification [SLHJ] is sent

	Sender	Receiver		
Cancellations and corrections	Use cases	Use cases		
Wrong patient Wrong type of hospital stay → CANCEL previously sent notification	Wrong type of hospital stay			
Admission	AN_S1	<u>AN_K1</u>		
Acute outpatient stay	AN_S2	AN_K2		
Start of leave	AN_S4	AN_K4		
End of leave	AN_S5	AN_K5		
Discharged to home	AN_S3	AN_K3		
Death	AN_S9	AN_K9		
Incorrect entry of hospital department Incorrect entry of time → CORRECT previously sent notification				
Admission	RE_S1	RE_K1		
Acute outpatient stay	RE_S2	RE_K2		
Start of leave	RE_S4	RE_K4		
End of leave	RE_S5	RE_K5		
Discharged to home	RE_S3	RE_K3		
Death	RE_S9	RE_K9		

Technical use cases	Sender	Receiver
	Use cases	Use cases
Evaluate and send notification [Type]	TC.S1	
Receive and evaluation notification [Type]		TC.K1
Discard notification [Type]		<u>TC.K1a</u>
Load and show notification [Type]		TC.K1b
Load corrected notification [Type]		TC.K1c
Evaluate notification [Type] and send admission report if requested		TC.K2

3 Business-related use cases

3.1 Use case 1: Admissions

3.1.1 Use case S1	Admit patient and send notification [STIN]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To admit the patient and notify relevant partners about this
Conditions for initiation	The patient is referred to admission (acute or planned) The patient is not transferred from another department at the same hospital/other hospital in the same region
Reason for initiation	The patient shows up at the hospital to be admitted.
Actions	 'User actor: registers the patient as 'present and admitted' System actor: Activates Use case <u>TC.S1</u> "Evaluate and send notification [STIN]" with request for automatic admission report from the recipient
Result	The patient is admitted Use Case TC.S1 "Evaluate and send notification [STIN]" is activated with request for admission report
Alternative actions	 1a. User actor enters the wrong personal identification number during the registration/admission → See use case AN_S1 1b. User actor enters the acute ambulant as the type of hospital stay → See use case AN_S2 1c. User actor enters the wrong hospital department or time of hospital stay → RE_S1
Remarks	Is the patient transferred from acute ambulant care department \rightarrow see use case <u>S10</u> .

3.1.1.1 Use case AN_S1	Cancel admission and send notification [AN_STIN]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To correct and notify relevant actors about wrongly sent notifications [STIN]
Conditions for initiation	Notification has been sent [STIN]
Reason for initiation	The user cancels the admission because i) wrong patient entered or ii) wrong type of hospital stay (acute ambulant instead of admitted) entered for the right patient
Actions	 User actor: cancels admission System actor: activates Use Case <u>TC.S1</u> "Evaluate and send notification [STIN]" No request for admission report is sent.
Result	Admission is cancelled Use Case <u>TC.S1</u> "Evaluate and send notification [AN_STIN]" is activated
Alternative actions	
Remarks	The same ID as for the first sent notification [STIN] is used. Subsequently, the user enters the correct registration.

3.1.1.2 Use case RE_S1	Correct admission and send notification [RE_STIN]	
Initiator	User actor: Nurse/secretary at the hospital	
Purpose, description and demarcation	To correct and notify relevant actors about wrong registration of an admission and consequently, a wrong notification [STIN] (not wrong personal identification number)	
Conditions for initiation	Notification has been sent [STIN]	
	The notification [STIN] is the last sent notification	
Reason for initiation	The user corrects the wrong registration of the admission	
	- Wrong entry of hospital department	
	- Wrong entry of time	
Actions	 User actor: Corrects the relevant admission regarding the hospital department or time System actor: Activates Use Case <u>TC.S1</u> "Evaluate and send notification [STIN]" No request for admission report is sent 	
Result	Information about the admission is corrected and is now correct.	
	Use Case <u>TC.S1</u> "Evaluate and send notification [RE_STIN]" is activated with request to not send a new admission report from the recipient system.	
Alternative actions		
Remarks	Only corrections for the hospital department and/or time should trigger the notification [RE_Type]. Entry of the wrong patient/personal identification number should trigger the cancellation (notification [AN_Type]).	
	No cancellations should be sent in advance of the corrections	
	The same ID as for the first sent notification [STIN] is used.	

3.1.2 Use case K1	Receive notification about admission [STIN]		
Initiator	System actor: notification [STIN]		
Purpose, description and demarcation	To receive information on a citizen that has been admitted to hospital (possibly to pause the citizens' care services) and to send admission reports to the hospital.		
Conditions for initiation	The citizen receives care services from the notification recipient. I.e. the notification recipient has a legal right to receive the notification.		
Reason for initiation	System actor receives notification [STIN] with request for automatic admission report		
Actions	 System actor: Receives and evaluates notification [STIN] (TC.K1) System actor: Loads and shows the notification [STIN] (TC.K1b) The User actor is informed that the citizen is admitted System and User actors: possibly pauses the citizens' care services System actor: Evaluates notification [STIN] and sends automatic admission report (TC.K2) User actor: If required, sends admission report manually. 		
Result	The citizen is admitted Notification [STIN has been received, evaluated and shown in the recipient system. An automatic admission report has been sent Perhaps a manual admission report has been sent The citizen's care services are paused		
Alternative actions			
Remarks	It is up to the recipient system to set up rules to pause care services automatically when receiving a notification [STIN].		

3.1.2.1 Use case AN_K1 Initiator	Receive notification about the cancelled admission notification [AN_STIN] User actor: System actor notification [AN_STIN]
mitator	Osci actor. System actor notineation [AN_STIM]
Purpose, description and demarcation	To receive notification about wrongly received notification [STIN]
Conditions for initiation	Notification [STIN] is received
Reason for initiation	System actor receives notification [AN_STIN]
Actions	 System actor: Receives and evaluates notification [STIN] (TC.K1) System actor: Loads and shows notification [STIN] (TC.K1b) The User actor: is informed that a previously received notification is cancelled User actor/System actor: Resume paused care services System actor: Evaluates notification [AN_STIN] (TC.K2)
Result	The admission is cancelled Notification [AN_STIN] has been received, evaluated and shown in the recipient system The citizen's paused care services are resumed
Alternative actions	
Remarks	

3.1.2.2 Use case RE_K1	Receive notification about the corrected admission [RE_STIN]
Initiator	System actor: notification [RE_STIN]
Purpose, description and demarcation	To receive corrections to an already received notification [STIN]
Conditions for initiation	Notification [STIN] has been received
	Notification [STIN] is the last received notification
Reason for initiation	System actor receives notification [RE_STIN]
Actions	 System actor: Receives and evaluates notification [STIN] (TC.K1) System actor: Loads notification [RE_STIN] which replaces the previous received notification (TC.K1c) System actor: Evaluates notification [RE_STIN]. No new admission report is sent (TC.K2)
Result	Notification [AN_STIN] is received, evaluated and shown in the recipient system. Admission report is not automatically sent
Alternative actions	
Remarks	

3.2 Use case 2: Acute ambulant hospital stay

3.2.1 Use case S2	Receive acute ambulant patient and send notification [STAA].
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To notify the relevant actors about the patient's acute ambulant hospital stay
Conditions for initiation	The patient is referred to acute ambulant contact at the hospital The patient is not transferred from another department at the same hospital/other hospital in the same region
Reason for initiation	The patient is at the hospital regarding acute ambulant care
Actions	 User actor: registers the patient as 'attended' (acute ambulant) System actor: activates Use Case <u>TC.S1</u> "Evaluate and send notification [STAA] with request for the admission report from the recipient".
Result	The patient is admitted to the hospital Use Case <u>TC.S1</u> "Evaluate and send notification [STAA]" is activated with request for the admission report.
Alternative actions	 1a. User actor enters the wrong personal identification number during the registration/admission → See use case AN_S2 1b. User actor enters the wrong type of hospital stay → See use case AN_S1 1c. User actor enters the wrong hospital department or time of hospital stay → RE_S2
Remarks	In case an acute ambulant patient is admitted → see use case <u>\$10</u>

3.2.1.1 Use case AN_S2	Cancel acute ambulant hospital stay and send notification [AN_STAA]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To correct and notify relevant actors about a wrongly sent notification [STAA]
Conditions for initiation	Notification has been sent[STAA]
Reason for initiation	The user cancels acute ambulant stay because i) wrong patient entered or ii) 'admission' entered instead of 'acute ambulant' for the correct patient
Actions	 User actor: cancels acute ambulant stay System actor: activates Use case <u>TC.S1</u> "Evaluate and send notification [AN_STAA]". <u>No</u> request for admission report is sent.
Result	Acute ambulant stay is cancelled Use Case <u>TC.S1</u> "Evaluate and send notification[AN_STAA]" is activated.
Alternative actions	
Remarks	The same ID as for the first sent notification [STAA] is used Subsequently, the user enters the correct registration.

3.2.1.2 Use case RE S2	Correct acute ambulant stay and send notification [RE_STAA]
0.2.7.2	, , , ,
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and de-	To correct and notify relevant actors about wrong registration about
marcation	acute ambulant hospital stay and thereby wrong notification [STAA] (not
	the wrong personal identification number)
Conditions for initiation	Notification has been sent [STAA]
	Notification [STAA] is the last sent notification
Reason for initiation	User actor corrects the wrong registration about acute ambulant hospital
	stay
	- Wrong entry of hospital department
	- Wrong time of acute ambulant hospital stay
	Wrong time of dode dimbalant hoopital oldy
Actions	1. User actor: Corrects the wrong information about acute ambulant
	hospital stay
	2. System actor: Activates Use Case TC.S1 "Evaluate and send noti-
	fication [RE_STAA]". No request for admission report is sent.
Result	Information about the acute ambulant hospital stay is corrected and is
	now correct.
	Use Case <u>TC.S1</u> "Evaluate and send notification [RE_STAA]" is activated with request to not send a new admission report from the recipient sys-
	tem. Use Case <u>TC.S1</u> "Evaluate and send notification [STIN]" is activated
	with request for admission report.
Alternative actions	with request for duffission report.
Remarks	Only corrections for the hospital department and/or time should trigger
Normania	the notification [RE_Type]. Entry of the wrong patient/personal identifica-
	tion number should trigger the cancellation (advis[AN_Type]).
	No cancellations should be sent in advance of the corrections.
	The same ID as for the first sent notification [STAA] is used.

3.2.2 Use case K2	Receive notification about acute ambulant care hospital stay
Initiator	System actor: notification [STAA]
Purpose, description and de- marcation	To receive notice that a citizen has been admitted acute ambulant at the hospital (to pausing the citizen's care services) and to send admission report to the hospital.
Conditions for initiation	The citizen receives care services from the notification recipient, i.e. the notification recipient has legal right to receive the notification.
Reason for initiation	System actor receives notification [STAA] with request for automatic admission report.
Actions	 System actor: Receives and evaluates notification [STAA] (TC.K1) System actor: Loads and shows notification [STAA] (TC.K1b) User actor is informed about the citizen's acute ambulant admission System and User actor: possibly pauses the citizens' care services System actor: Evaluates the notification [STAA] and automatically send the admission report (TC.K2) User actor: If required, sends admission report manually.
Result	The citizen is absent/stays at the hospital Notification[STAA] has been received, evaluated and shown in the recipient system An admission report has been automatically sent. A manual admission report has possibly been sent. The citizen's care services are possibly paused.
Alternative actions	
Remarks	It is up to the recipient system to set up rules for a pause of care services when receiving the notification [STAA]

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3.2.2.1 Use case AN_K2	Receive notification about cancelled acute ambulant stay, noti-
_	fication [AN_STAA]
Initiator	System actor: notification [AN_STAA]
Purpose, description and demarca-	To receive notice on a notification wrongly received [STAA]
tion	
Conditions for initiation	Notification [STAA] is received
Reason for initiation	System actor receives notification [AN_STAA].
Actions	System actor: Receives and evaluates notification [AN_STAA]
	(<u>TC.K1</u>)
	2. System actor: Loads and shows notification [AN_STAA]
	(<u>TC.K1b</u>)
	3. User actor is informed that a previously received notification
	[STAA] is cancelled
	4. User actor/System actor: Resuming possibly paused care ser-
	vices
	5. System actor: Evaluates the notification [AN_STAA]. (TC.K2)
Result	Acute ambulant stay is cancelled
	Notification [AN_STAA] has been received, evaluated and shown in the
	recipient system.
	The citizen's possibly paused care services are resumed.
Alternative actions	
Remarks	

3.2.2.2 Use case RE_K2	Receive notification about correction to acute ambulant stay [RE_STAA]
Initiator	System actor: notification[RE_STAA]
Purpose, description and demarcation	To receive corrections to an already received notification[STAA]
Conditions for initiation	Notification [STAA] is received
	Notification[STAA] is the last received notification
Reason for initiation	System actor receives notification[RE_STAA].
Actions	 System actor: Receives and evaluates notification [RE_STAA] (TC.K1) System actor: Loads the notification [RE_STAA] which replaces the previously received notification (TC.K1c) System actor: "Evaluates the notification [RE_STAA]". No new admission report is sent. (TC.K2)
Result	Notification [RE_STAA] is received, evaluated and loaded in the recipient system. Admission report is not automatically sent.
Alternative actions	
Remarks	

3.3 Use case 3: Patient is sent home after hospital stay

3.3.1 Use case S3	Discharge patient and send notification [SLHJ]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To discharge a patient and notify relevant actors
Conditions for initiation	The patient is currently at the hospital (admitted or in acute ambulant care)
Reason for initiation	The patient is to end stay and be sent home.
Actions	User actor: discharges patient System actor: Activates Use case <u>TC.S1</u> "Evaluate and send notification" [SLHJ]. No request for admission report is sent.
Result	The patient is sent home after admission Use case <u>TC.S1</u> "Evaluate and send notification[SLHJ]" is activated.
Alternative actions	 1a. User actor enters the wrong personal identification number during the registration/discharge. See use case AN_S3 1b. User actor enters the wrong discharge type. See use case AN_S3 1c. User actor must revoke the discharge because the patient cannot be discharged anyway. See use case AN_S3 1d. User actor enters the wrong hospital department or time of hospital stay → RE_S3
Remarks	The same notification [SLHJ] is used both when an acute ambulant hospital stay (outpatient) and inpatient admission has ended and the patient is sent home.
	Notification [SLHJ] is only used when the patient is discharged and sent home or to care in the primary sector and must not be used when transferring patients or if the patient dies (note exception: use case <u>S7.1b</u> and <u>S8.1b</u>).
	 If the patient is discharged and not sent home (e.g. to hospice) it is regarded as a transfer, see use case S6.1, S7.1 and S8.1 If the patient is transferred to another department, see use case S6.1 If the patient is transferred to another hospital, see use case S7.1 and S8.1 If the patient dies, see use case S9.1 and S9.2

3.3.1.1 Use case AN_S3	Cancel end of hospital stay and send notification [AN_SLHJ]"
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To correct and notify relevant actors about the wrongly sent notification.
Conditions for initiation	Notification has been sent [SLHJ]
Reason for initiation	The user cancels discharge
Actions	User actor: cancels end of hospital stay System actor: activates Use case <u>TC.S1</u> "Evaluate and send notification" [AN_SLHJ]. No request for admission report is sent.
Result	End of hospital stay is cancelled. Use case <u>TC.S1</u> "Evaluate and send notification [AN_SLHJ]" is activated.
Alternative actions	
Remarks	The same ID as for the first sent notification [SLHJ] is used. Subsequently, the user enters the correct registration.

3.3.1.2 Use case RE_S3	Correct end of hospital stay and send notification [RE_SLHJ]"
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation Conditions for initiation	To correct and notify relevant actors about the wrong registration about end of hospital stay and consequently, a wrong notification Notification has been sent [SLHJ]
Reason for initiation	User actor corrects the wrong registration about end of hospital stay - Wrong entry of hospital department - Wrong entry of time of leave
Actions	 User actor: corrects the wrong registration about end of hospital stay. System actor: activates Use case <u>TC.S1</u> "Evaluate and send notification" [AN_SLHJ]. No request for admission report is sent
Result	Afslutning af sygehusophold er annulleret Use Case <u>TC.S1</u> "Evaluér og send Advis[RE_SLHJ]" er aktiveret.
Alternative actions	
Remarks	The same ID as for the first sent notification [SLHJ] is used. Subsequently, the user enters the correct registration.

3.3.2 Use case K3	Receive notification about the patient's discharge [SLHJ]
Initiator	System actor: notification [SLHJ]
Purpose, description and demarca-	To receive notification about discharge of a citizen in order to resume
tion	the citizen's care services.
Conditions for initiation	A notification has previously been received about a patient's admission (notification[STAA]), notification[STIN])
Reason for initiation	System actor receives the notification[SLHJ].
Actions	 System actor: receives and evaluates notification [SLHJ] (TC.K1) System actor: Loads and shows notification [SLHJ] (TC.K1b). User actor is informed that the citizen is discharged and sent home System actor or User actor: resumes the citizen's care services [SLHJ] System actor: evaluates notification [SLHJ] (TC.K2)
Result	The citizen is discharged from the hospital and is back home. Notification [SLHJ] is received, evaluated and shown in the recipient system. The users paused care services is resumed.
Alternative actions	
Remarks	It is up to the recipient system to set up rules to resume care services automatically when receiving a notification [SLHJ].

3.3.2.1 Use case AN_K3	Receive notification about cancelled end of hospital stay [AN_SLHJ]
Initiator	System actor: notification[AN_SLHJ]
Purpose, description and demarcation	To receive notification about the wrongly received notification[SLHJ]
Conditions for initiation	Notification [SLHJ] is received
Reason for initiation	System actor receives notification[AN_SLHJ].
Actions	 System actor: receives and evaluates notification[AN_SLHJ] (TC.K1) System actor: loads and shows notification[AN_SLHJ] (TC.K1b) User actor is informed that a previously received notification [SLHJ] is cancelled User actor/System actor: if necessary, pausing resumed care services System actor: evaluates notification[AN_SLHJ] (TC.K2)
Result	End of hospital stay is cancelled Notification [AN_SLHJ] is received, evaluated and shown in the recipient system. The citizen's resumed care services are paused.
Alternative actions	
Remarks	

3.3.2.2 Use case RE_K3 Initiator	Modtag advisering om rettet afslutning af sygehusophold advis[RE_SLHJ] System actor: notification[RE_SLHJ]
Purpose, description and demar-	To receive corrections to an already received notification [SLHJ].
cation	
Conditions for initiation	Notification [SLHJ] is received
Reason for initiation	System actor receives notification[RE_SLHJ].
Actions	 System actor: Receives and evaluates notification[[RE_SLHJ] (TC.K1) System actor: Loads and shows notification[RE_SLHJ] which replaces the previously received notification (TC.K1c) System actor: evaluates notification[RE_SLHJ]. No new admission report is sent (TC.K2) User actor/System actor: if necessary, corrects resumed care services
Result	Information about end of hospital stay is corrected Notification[RE_SLHJ] is received, evaluated and shown in the recipient system.
Alternative actions	
Remarks	

3.4 Use case 4: Start leave

3.4.1 Use case S4	Start leave for the patient and send notification [STOR]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To notify relevant actors that an admitted patient is sent on leave
Conditions for initiation	The patient is admitted to the hospital
Reason for initiation	The patient is sent on leave from hospital
Actions	 User actor: registers the admitted patient as "on leave" System actor: activated use case <u>TC.S1</u> "Evaluate and send notification [STOR]". No request for admission report is sent.
Result	The patient is at home on leave Use case <u>TC.S1</u> "Evaluate and send notification [STOR]" is activated.
Alternative actions	1a. User actor enters the wrong personal identification number during the registration. See use case <u>AN_S4</u> 1b. User actor enters the wrong time of 'start of leave' <u>RE_S4</u> 1c. User actor may remove 'start of leave' because the patient's leave is cancelled. See use case <u>AN_S4</u>
Remarks	Ahead of sending, the hospital system can, if necessary, validate if an admission report has been received. This way, notifications about leave will not be sent if the patient does not receive care services from the municipality.
	Notification about the patient's leave should be sent as a service announcement to the recipient who is then informed about a patient's leave in case relatives or the patient him-/herself makes an enquiry during the leave. Responsibility of treatment for a patient on leave lies with the hospital and it should be coordinated if other providers than the hospital are to provide services during the patient's leave.
	Leave notifications are only sent when the patient is registered as "on leave at home". Leave in case of double admission (admission in both a psychiatric department and somatic department) should therefore not trigger leave notifications.

3.4.1.1 Use case AN_S4	Cancel start of leave and send notification[AN_STOR]"
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To correct and notify relevant actors about the wrongly sent notification[STOR]
Conditions for initiation	Notification has been sent [STOR]
Reason for initiation	The user cancels leave
Actions	User actor: cancels leave System actor: activates Use case <u>TC.S1</u> "Evaluate and send notification" [AN_SLHJ]. No request for admission report is sent.
Result	Leave is cancelled Use case <u>TC.S1</u> "Evaluate and send notification" [AN_STOR] is activated.
Alternative actions	
Remarks	The same ID as for the first sent notification [STOR] is used. Subsequently, the user enters the correct registration.

3.4.1.2 Use case RE_S4	Correct start of leave and send notification[RE_STOR]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarca-	To correct and notify relevant actors about the wrong registration
tion	about leave and thereby the wrong notification[STOR]
Conditions for initiation	Notification has been sent [STOR]
	Notification [STOR] is the last sent notification
Reason for initiation	User actor corrects the wrong registration about leave
	- Wrong entry of hospital department
	- Wrong entry of time of leave
Actions	1. User actor: corrects the wrong registration about leave
	2. System actor: activates Use case <u>TC.S1</u> Evaluate and send notification [RE_STOR]. No request for admission report is sent.
Result	Information about leave is corrected and is now correct.
	Use case TC.S1 "Evaluate and send notification [STOR]" is activated
	with a request that no new admission report is sent from the recipient system
Alternative actions	
Remarks	Only corrections for the hospital department and/or time should trigger the notification [RE_Type]. Entry of the wrong patient/personal identification number should trigger cancellation (notification [AN_Type]).
	No cancellations should be sent in advance of the corrections. The same ID as for the first sent notification [STOR] is used.

2.4.2. Hoo ooo K4	Receive notification about start of leave
3.4.2 Use case K4	
Initiator	System actor: Notification[STOR]
Purpose, description and demarca-	To be informed that an admitted citizen is on leave from their admis-
tion	sion.
Conditions for initiation	Previously, a notification about the patient's hospital stay (notifica-
	tion[STIN]) has been received
Reason for initiation	System actor receives the notification[STOR]
Actions	System actor: Receives and evaluates notification[STOR] (TC.K1)
	2. System actor: Loads and shows notification [STIN] (TC.K1b)
	3. The User actor is informed that an admitted patient is sent on
	leave from their admission
	4. System actor: evaluates the notification[STOR]. No new ad-
	mission report is sent (TC.K2)
Result	The citizen is on leave from their admission
	Notification [STOR] is received, evaluated and shown in the recipient
	system
Alternative actions	
Remarks	Notification about the patient's leave should be sent as a service announcement to the recipient who is then informed about a patient's leave in case relatives or the patient him-/herself makes an enquiry during the leave.
	Responsibility of treatment for a patient on leave lies with the hospital and it should be coordinated if other providers than the hospital are to provide care services during the patient's leave.

	Descrive notification shout concelled start of leave [AN CTOD]
3.4.2.1 Use case AN_K4	Receive notification about cancelled start of leave [AN_STOR]
Initiator	System actor: Notification[AN_STOR]
Purpose, description and demarca-	To receive notification about the wrongly received notification [SLHJ]
tion	
Conditions for initiation	Notification [STOR] is received
Reason for initiation	System actor receives notification[AN_STOR].
Actions	1. System actor: Receives and evaluates notification[AN_STOR] (TC.K1) 2. System actor: Loads and shows notification[AN_STOR] (TC.K1b) 3. User actor: Is informed that a previously received notification [STOR] is cancelled 4. System actor: Evaluates notification[AN_STOR]. No new admission report is sent (TC.K2)
Result	Leave is cancelled Notification[AN_STOR] is received, evaluated and shown in the recipient system.
Alternative actions	
Remarks	

55.44	Descrive notification about corrected start of leave [DE CEOD]
3.4.2.2 Use case RE_K4	Receive notification about corrected start of leave [RE_STOR]
Initiator	System actor: Notification[RE_STOR]
Purpose, description and demarca-	To receive corrections to an already received notification[STOR]
tion	
Conditions for initiation	Notification [STOR] is received
	Notification [STOR] is the last received notification
Reason for initiation	System actor receives notification[RE_STOR].
Actions	System actor: Receives and evaluates notification[RE_STOR] (TC.K1)
	2. System actor: Loads notification[RE_STOR], which replaces the previously received notification (<u>TC.K1c</u>)
	3. System actor: Evaluates notification [RE_STOR]. No new admission report is sent (TC.K2)
Result	Notification[RE_STOR] is received, evaluated and loaded in the recipi-
	ent system. Admission report is not automatically sent (<u>TC.K2</u>)
Alternative actions	
Remarks	

3.5 Use case 5: End leave

3.5.1 Use case S5	Receive patient who has been on leave and send notification [SLOR]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarca-	To notify the relevant actors about the patient being returned to the
tion	hospital from leave.
Conditions for initiation	The patient is on leave.
	Notification [STOR] has been sent
Reason for initiation	The patient has returned to the department after leave.
Actions	User actor: Ends admitted patient's leave
	2. System actor: activates Use Case <u>TC.S1</u> "Evaluate and send
	notification[SLOR]". No request for admission report is sent.
Result	The patient is admitted and stays at the hospital. Use Case <u>TC.S1</u>
	"Evaluate and send notification[SLOR] is activated.
Alternative actions	1a. User actor enters the wrong personal identification number during
	the registration. See Use Case <u>AN_S5</u>
	1b. User actor enters the wrong time of end of leave RE_S5
Remarks	If the patient is absent after leave: Send notification [SLHJ] → See use
	case <u>S3</u>
	If the protional disconline house Construction (MODO) > Construction
	If the patient dies during leave: Send notification [MORS] → Se use
	case <u>\$9.3</u>

3.5.1.1 Use case AN_S5	Cancel ended leave and send notification[AN_SLOR]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To correct and notify relevant actors about the wrongly sent notification[SLOR]
Conditions for initiation	Notification has been sent[SLOR]
Reason for initiation	The user cancels end of leave
Actions	User actor: Cancels end of leave System actor: Activates Use Case <u>TC.S1</u> "Evaluate and send notification [AN_SLOR]". No request for admission report is sent.
Result	End of leave is cancelled. Use Case <u>TC.S1</u> "Evaluate and send notification [AN_SLOR]" is activated
Alternative actions	
Remarks	The same ID as for the first sent notification [SLOR] is used.
	Subsequently, the user enters the correct registration.

3.5.1.2 Use case RE_S5	Correct ended leave and send notification[RE_SLOR]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarca-	To correct and notify relevant actors about the wrong registration
tion	about leave and thereby the wrong notification[SLOR]
Conditions for initiation	Notification[SLOR] has been sent.
	Notification[SLOR] is the last sent notification.
Reason for initiation	User actor corrects the wrong registration about leave
	- Wrong entry of hospital department
	Wrong entry of time of leave
Actions	User actor: Corrects the wrong registration about end of leave
	2. System actor: Activates Use Case <u>TC.S1</u> " Evaluate and
	send notification[RE_SLOR]". No request for admission report is sent.
Result	Information about the leave is corrected and is now correct.
	Use case <u>TC.S1</u> " Evaluate and send notification [SLOR]" is activated with a request that no new admission report is sent from the recipient system
Alternative actions	
Remarks	Only corrections for the hospital department and/or time should trigger the notification [RE_Type]. Entry of wrong patient/personal identification number should trigger the cancellation (notification [AN_Type]).
	No cancellations should be sent in advance of the corrections.
	The same ID as for the first sent notification [SLOR] is used.

3.5.2 Use case K5	Receive notification about end of leave
Initiator	System actor: notification[SLOR]
Purpose, description and demarca-	To be informed that a citizen who has been on leave during admission
tion	has now returned to hospital.
Conditions for initiation	A notification has previously been received about the patient's leave (notification [STOR])
Reason for initiation	System actor receives notification[SLOR]
Actions	1. System actor: receives and evaluates notification[SLOR] (TC.K1) 2. System actor: loads and shows notification[SLOR] (TC.K1b) 3. User actor is informed that a citizen who is on leave from admission has returned to hospital for continuous admission. System actor: evaluates notification[SLOR] (TC.K2)
Result	The citizen is admitted.
	Notification[SLOR] is received, evaluated and shown in the recipient system.
Alternative actions	
Remarks	If the patient does not return to the hospital after leave (is absent): The receiving system will receive notification [SLHJ]. Notification [SLOR] may have been received prior to notification [SLHJ] → Se use case K3
	If the patient dies during leave: The receiving system will receive notification [MORS]. Notification [SLOR] may have been received prior to notification [SLHJ] → See use case K9.2

3.5.2.1 Use case AN_K5	Receive notification about cancelled ended leave [AN_SLOR]
Initiator	System actor: notification [AN_SLOR]
Purpose, description and demarca-	To receive notification about a wrongly received notification[SLOR]
tion	
Conditions for initiation	Notification [SLOR] is received
Reason for initiation	System actor receives notification [AN_SLOR]
Actions	1. System actor: receives and evaluates notification [AN_SLOR] (TC.K1) 2. System actor: loads and shows notification [AN_SLOR] (TC.K1b) 3. System actor: is informed that a previously received notification is cancelled 4. System actor: evaluates notification[AN_SLOR] (TC.K2)
Result	End of leave is cancelled, Notification [AN_SLOR] is received, evaluated and shown in the recipient system.
Alternative actions	
Remarks	

3.5.2.2 Use case RE_K5	Receive correction for ended leave [RE_SLOR]
Initiator	System actor: notification [RE_SLOR]
Purpose, description and demarcation	To receive corrections to an already received notification [SLOR]
Conditions for initiation	Notification [SLOR] is received
	Notification [SLOR] is the last received notification.
Reason for initiation	System actor receives notification [RE_SLOR]
Actions	1. System actor: receives and evaluates notification [RE_SLOR] (TC.K1) 2. System actor: loads and shows notification [RE_SLOR], which replaces the previously received notification (TC.K1c) 3. User actor evaluates notification [RE_SLOR]. New admission report is not sent (TC.K2)
Result	Notification [RE_SLOR] is received, evaluated and shown in the recipient system. Admission report is not automatically sent.
Alternative actions	
Remarks	

3.6 Use case 6: Transfers within the same hospital

3.6.1 Use case S6.1	Transfer patient to another department at the same hospital (original department)
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To transfer the patient to another department at the same hospital
Conditions for initiation	The patient is admitted to the hospital (acute ambulant or admitted) but is referred to another department at the same hospital.
Reason for initiation	The patient is discharged from the department in order to be admitted in another department at the same hospital.
Actions	User actor: Transfers the patient to another department at the same hospital.
Result	The patient is transferred to another department at the same hospital.
Alternative actions	1a. User actor discharges the patient without any specification indicating that the patient is transferred. In this case, Use Case TC.S1 "Evaluate and send notification [SLHJ] is activated. This is unintended and should be avoided.
	1b. User actor enters the wrong personal identification number during the registration.
	1c. User actor must revoke the transfer because the patient is not able to the transferred anyway.
Remarks	No notification about discharge is sent because the patient is still admitted in another department.
	Since no notification is sent from the original department there will be no notification which can be corrected/cancelled in case of wrongful registration.

3.6.2 Use case S6.2	Receive patient from another department at the same hospital
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To admit the transferred patient
Conditions for initiation	The patient is referred to be transferred to another department at the same hospital.
Reason for initiation	The patient is present at the department after being transferred from another department at the same hospital.
Actions	1. User actor: Registers the patient who is attended from another department (Transfer)
Result	The patient is admitted at a new department at the same hospital. Use Case <u>TC.S1</u> "Evaluate and send notification [STIN] is activated.
Alternative actions	1a. The User actor enters the wrong personal identification number during the registration. See Use Case AN_S1 1b. User actor enters the wrong hospital department or time of hospital stay. See use case RE_S1
Remarks	The same procedure ID is used.

3.7 Use case 7: Transfers within the same region

In case of transfer from one hospital to another within the same region, a distinction should be made between:

- a. Use case S7.1a: The hospital is responsible for the transportation of the patient from hospital A to hospital B (most likely) → No notification to the municipality is sent (or another recipient) from the initial department.
- b. Use case S7.1b: The patient is responsible for the transportation from hospital A to hospital B (less likely) → A notification is sent to the municipality (or another recipient) from the initial department.

In scenario B the hospital cannot be sure that the patient turns up at hospital B. Hospital A should therefore "Discharge the patient" as for a normal discharge. The planned transfer should be communicated to the municipality (other recipient) in the care procedure plan and/or the correspondence message.

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3.7.1 Use case S7.1a	Transfer patient to another hospital in the same region (The initial hospital is responsible for the transfer/transportation)
Initiator	User actor: Nurse/secretary at the hospital (at the initial hospital)
Purpose, description and demarca-	To transfer the patient to another hospital in the same region without
tion	sending a notification which indicates that the patient has been discharged and sent home.
Conditions for initiation	The patient is present at the hospital (acute ambulant or admitted) but is referred to be transferred to another hospital in the same region.
Reason for initiation	The patient is discharged from hospital in order to be admitted to another hospital in the same region.
Actions	1. User actor: Discharges patient in order to transfer the patient to another hospital in the same region.
Result	The patient is discharged in order to be admitted at another hospital in the same region.
Alternative actions	1a. User actor discharges the patient without indication that the patient is transferred to another hospital. In this case, use case TC.S1 "Evaluate and dent notification" [SLHJ] is activated. This is unintended and should be avoided. 1b. User actor enters the wrong personal identification number during
	the registration 1c. User actor has to annul the transfer because the patient cannot be transferred after all.
Remarks	Notification of discharge[SLHJ], wrongly indicating that the patient is sent home, must not be sent. The rule can only be deviated from in cases where the patient handles the transport from hospital A to hospital B → Se use case S7.1b
	The use case above also includes the scenarios where the patient is discharged and sent to hospice. Upon the patient's arrival, hospice sends notification [STIN]. See use case <u>S7.2</u>
	Related to double hospitalizations: In rare cases, the patient may have a simultaneous hospitalization in somatic and psychiatric department (double hospitalization), where the patient is transferred between somatic and psychiatric department/hospital. Here, the recipient system will receive notification [STIN] as in the case of transfer between hospitals but will – upon relocation – not receive new notification [STIN], as the hospitalization is still active here. Here, the patient's current residence must be communicated in another way,
	Since no notification is sent from the initial department, there is no notification which can be corrected/cancelled in case of errors in the registration.

3.7.2 Use case S7.1b	Transfer a patient to another hospital in another region (initial hospital, the patient is responsible for transportation) [SLHJ]
Initiator	User actor: Nurse/secretary at the hospital (at the initial hospital)
Purpose, description and demarcation	To transfer the patient to another hospital in the same region.
Conditions for initiation	The patient is present at the hospital (acute ambulant or admitted) but is referred to be transferred to another hospital in the same region. It is agreed that the patient arranges transport to another hospital for him-/herself.
Reason for initiation	The patient is discharged from hospital in order to be admitted to another hospital in the same region.
Actions	1. User actor: Discharges patient in order to transfer the patient to another hospital in the same region. System actor activates use Case TC.S1 "Evaluate and send notification [SLHJ]. No request for admission report is sent.
Result	The patient is discharged in order to be admitted at another hospital in the same region. Use case <u>TC.S1</u> "Evaluate and sent notification[SLHJ] is activated.
Alternative actions	 1a. User actor enters the wrong personal identification number during the registration/discharge. See use case AN_S3 1b. User actor enters the wrong discharge type. See use case AN_S3 1c. User actor must revoke the transfer because the patient's situation has changed. See use case AN_S3 1d. User actor enters the wrong hospital department or time of hospital stay → RE_S3
Remarks	Notification[SLHJ] is normally only used when the patient is relocated home/to primary care. This case is therefore an exception and the case is less likely to happen. The use case above also includes the scenarios where the patient is discharged and sent to hospice. Upon the patient's arrival, hospice sends notification[STIN]. See use case S1

3.7.3 Use case S7.2	Receive patient from another hospital in the same region and send notification [STIN]
Initiator	User actor: Nurse/secretary at the hospital (receiving hospital)
Purpose, description and demarcation	To admit the transferred patient and notify relevant actors about this.
Conditions for initiation	The patient is referred to be transferred from another hospital in the same region.
Reason for initiation	The patient attends the department after transfer from another hospital in the same region.
	An admission report from the initial hospital has been received.
Actions	User actor: Registers the patient who is received from another hospital and admits the patient. System actor: Activates use case IC.S1 "Evaluate and send notification IC.STIN ". As the patient is transferred from another hospital in the same region, a request that no new admission report should be sent is added to the notification.
Result	The patient is admitted to hospital in the same region. Use case <u>TC.S1</u> " Evaluate and send notification[STIN]" is activated with a request that no new admission report is sent from the recipient system.
Alternative actions	 1a. User actor enters the wrong personal identification number during the registration/admission → See use case AN_S1 1b. User actor enters the acute ambulant as the type of hospital stay → See use case AN_S2 1c. User actor enters the wrong hospital department or time of hospital stay → RE_S1
Remarks	Related to double hospitalizations: In rare cases, the patient may have a simultaneous hospitalization in somatic and psychiatric department (double hospitalization), where the patient is transferred between somatic and psychiatric department/hospital. Here, the recipient system will receive notification [STIN] as in the case of transfer between hospitals but will – upon relocation – not receive new notification [STIN], as the hospitalization is still active here. Here, the patient's current residence must be communicated in another way,

0.7.4.11	Descive metification object admission in another beauty
3.7.4 Use case K7	Receive notification about admission in another hospital
	in the same region (transfer)
Initiator	System actor: notification[STIN]
Purpose, description and demarca-	To be informed that a citizen has been transferred to another hospital
tion	in the same region.
Conditions for initiation	Notification of the patient's admission to hospital has previously been received (notification[STAA], notification[STIN])
Reason for initiation	System actor receives notification[STIN] from the receiving department
Actions	1. System actor: Receives and evaluates notification[STIN] (TC.K1)
	2. System actor: Loads and shows notification[STIN]" (TC.K1b)
	3. User actor is informed that a citizen is admitted at a new hospital in the same region.
	4. System actor: Evaluates notification[STIN] (TC.K2) and does not automatically send admission report.
Result	The citizen is absent/admitted to another hospital. Notification[STIN] has been received, evaluated and shown in the recipient system. New admission report is not automatically sent.
Alternative actions	
Remarks	The same procedure ID is used.
	If the patient is discharged and sent to hospice, notification [STIN] is received from hospice. If the patient took care of transport from hospital A to hospital B him-/herself the municipality (or other recipient) receives a notification [SLHJ] ahead of the new notification [STIN].
	The new notification [STIN] is considered the current status of the patient and thus closes/ends the first admission. Previously received notifications [STIN] should be considered historical.
	Related to double hospitalizations: In rare cases, the patient may have a simultaneous hospitalization in somatic and psychiatric department (double hospitalization), where the patient is transferred between somatic and psychiatric department/hospital. Here, the recipient system will receive notification [STIN] as in the case of transfer between hospitals but will – upon relocation – not receive new notification [STIN], as the hospitalization is still active here. Here, the patient's current residence must be communicated in another way,

3.8 Use case 8: Transfer between regions⁴

In case of transfer from one region to another, a distinction should be made between:

- a. Use case S8.1a: Hospital manages/is responsible for patient transport from hospital A to hospital B (most likely) → No notification is sent to the municipality (or other recipient) from the initial department.
- b. Use case S8.1b: The patient manages/is responsible for transport from hospital A to hospital B (less likely) → Notification is sent to the municipality (or other recipient) from the initial department.

In scenario B the hospital cannot be sure that the patient turns up at hospital B. Hospital A should therefore "Discharge the patient" as for a normal discharge. The planned transfer should be communicated to the municipality (other recipient) in the care procedure plan and/or the correspondence message.

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⁴ Transfers between private and public hospitals are handled as transfers between regions

3.8.1 Use case S8.1a	Transfer patient to another hospital in another region (initial hospital, hospital is responsible for the transfer/transport)
Initiator	User actor: Nurse/secretary at the hospital (at the initial hospital)
Purpose, description and demarcation	To transfer the patient to another hospital in another region without sending notification indicating that the patient is discharged and sent home.
Conditions for initiation	The patient is present at the hospital (acute ambulant or admitted) but is referred to be transferred to another hospital in another region.
Reason for initiation	The patient is discharged from the department in order to be admitted to another hospital in another region.
Actions	1. User actor: The patient is discharged in order to be transferred to another hospital in another region.
Result	The patient is transferred to another hospital in another region.
Alternative actions	1a. User actor discharges the patient without indication that the patient is transferred to another hospital. In this case, use case TC.S1 "Evaluate and dent notification [SLHJ] is activated. This is unintended and should be avoided.
	1b. User actor enters the wrong personal identification number during the registration 1c. User actor has to annul the transfer because the patient cannot be transferred after all.
Remarks	Notification of discharge [SLHJ], wrongly indicating that the patient is sent home, must not be sent. The rule can only be deviated from in cases where the patient handles the transport from hospital A to hospital B → Se use case S8.1b
	The use case above also includes the scenarios where the patient is discharged and sent to hospice. Upon the patient's arrival, hospice sends notification[STIN]. See use case <u>S8.2</u>
	Related to double hospitalizations: In rare cases, the patient may have a simultaneous hospitalization in somatic and psychiatric department (double hospitalization), where the patient is transferred between somatic and psychiatric department/hospital. Here, the recipient system will receive notification [STIN] as in the case of transfer between hospitals but will – upon relocation – not receive new notification [STIN], as the hospitalization is still active here. Here, the patient's current residence must be communicated in another way,
	Since no notification is sent from the initial department, there is no notification which can be corrected/cancelled in case of errors in the registration.

3.8.2 Use case S8.1b	Transfer patient to another hospital in another region (initial hospital, patient is responsible for transport) [SLHJ]
Initiator	User actor: Nurse/secretary at the hospital (at the initial hospital)
Purpose, description and demarcation	To transfer the patient to another hospital in another region.
Conditions for initiation	The patient is present at the hospital (acute ambulant or admitted) but is referred to be transferred to another hospital in another region. It is agreed that the patient him-/herself takes care of transport to the other hospital.
Reason for initiation	The patient is discharged from hospital in order to be admitted to another hospital in another region.
Actions	 User actor: Discharges patient in order to transfer the patient to another hospital in another region. System actor: Activates use case <u>TC.S1</u> "Evaluate and send notification[SLHJ]". No request for admission report is sent is sent.
Result	The patient is discharged in order to be admitted at another hospital in another region. Use case <u>TC.S1</u> "Evaluate and send notification[SLHJ]" is activated.
Alternative actions	 1a. User actor enters the wrong personal identification number during the registration/discharge. See use case AN_S3 1b. User actor enters the wrong discharge type. See use case AN_S3 1c. User actor must revoke the transfer because the patient's situation has changed. See use case AN_S3 1d. User actor enters the wrong hospital department or time of hospital stay → RE_S3
Remarks	Notification[SLHJ] is normally only used when a patient is discharged and sent home/to primary sector. This case is therefore an exception and the use case is deemed less likely to happen. The use case above also includes the scenarios where the patient is discharged and sent to hospice. Upon the patient's arrival, hospice sends notification[STIN]. See use case S1.

3.8.3 Use case \$8.2	Receive patient from another hospital in another region and send notification [STIN]".
Initiator	User actor: Nurse/secretary at the hospital (at the receiving hospital)
Purpose, description and demarcation	To admit the transferred patient and notify relevant actors about this.
Conditions for initiation	The patient is referred to be transferred from another hospital in another region.
Reason for initiation	The patient is present at the hospital after transfer from another hospital in another region.
Actions	1. User actor: Registers the patient as attended from another hospital and admits the patient 2. System actor: Activates use case TC.S1 "Evaluate and send notification [STIN] ". As the patient is transferred from another hospital in another region, a request that a new admission report should be sent is added to the notification.
Result	The patient is admitted to a new hospital in another region. Use case <u>TC.S1</u> "Evaluate and send notification [STIN]" is activated with a request to the recipient system that a new admission report must be sent.
Alternative actions	 1a. User actor enters the wrong personal identification number during the registration/admission → See use case AN_S1 1b. User actor enters the acute ambulant as the type of hospital stay → See use case AN_S2 1c. User actor enters the wrong hospital department or time of hospital stay → RE_S1
Remarks	A new procedure ID is not used Related to double hospitalizations: In rare cases, the patient may have a simultaneous hospitalization in somatic and psychiatric department (double hospitalization), where the patient is transferred between somatic and psychiatric department/hospital. Here, the recipient system will receive notification [STIN] as in the case of transfer between hospitals but will – upon relocation – not receive new notification [STIN], as the hospitalization is still active here. Here, the patient's current residence must be communicated in another way,

3.8.4 Use case K8	Receive notification about admission in another hospital
	in another region (transfer)
Initiator	System actor: notification[STIN]
Purpose, description and demarca-	To be informed that a citizen has been transferred to another hospital
tion	in another region and send admission report to the receiving hospital.
Conditions for initiation	Previously, a notification about the patient's admission to the hospital
	(notification[STAA], notification[STIN]) has been received
Reason for initiation	System actor receives notification [STIN] from the receiving hospital.
Actions	1. System actor: Receives and evaluates notification[STIN] (TC.K1)
	2. System actor: Loads and shows notification[STIN]" (TC.K1b)
	3. User actor is informed that a citizen is admitted at a new hospital in
	another region.
	4. System actor: Evaluates notification[STIN] and automatically sends
	admission report (TC.K2).
	5. User actor: If required, sends admission report manually
Result	The citizen is absent/admitted to another hospital.
	Notification[STIN] has been received, evaluated and shown in the re-
	cipient system.
	Automatic admission report has been sent.
All II	If required, admission report has been sent manually.
Alternative actions	
Remarks	If the patient took care of transport from hospital A to hospital B him- /herself the municipality (or other recipient) receives a notification [SLHJ] ahead of the new notification [STIN].
	If the patient is discharged and sent to hospice, notification [STIN] is received from hospice. If the patient took care of transport from hospital A to hospital B him-/herself the municipality (or other recipient) receives a notification [SLHJ] ahead of the new notification [STIN].
	The new notification [STIN] is considered the current status of the patient and thus closes/ends the first admission. Previously received notifications [STIN] should be considered historical.
	Related to double hospitalizations: In rare cases, the patient may have a simultaneous hospitalization in somatic and psychiatric department (double hospitalization), where the patient is transferred between somatic and psychiatric department/hospital. Here, the recipient system will receive notification [STIN] as in the case of transfer between hospitals but will – upon relocation – not receive new notification [STIN], as the hospitalization is still active here. Here, the patient's current residence must be communicated in another way,

3.9 Use case 9: Death

3.9.1 Use case S9.1	Register the patient who has died during arrival and send notification [MORS]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To register the patient as dead and notify relevant actors about this.
Conditions for initiation	The patient is not present at the hospital.
Reason for initiation	The patient is dead upon arrival
Actions	User actor: Registers the patient as dead som død System actor: Activates Use case <u>TC.S1</u> "Evaluate and send notification [MORS]". No request for an admission report is sent.
Result	The patient is dead Use Case TC.S1 "Evaluate and send notification[MORS]" is activated.
Alternative actions	1a. User actor enters the wrong personal identification number during the registration. See use case AN_S9 1b. User actor enters wrong time of death. See use case RE_S9 1c. User actor has to annul "death" because the patient is not dead anyway. See use case AN_S9
Remarks	

3.9.2 Use case S9.2	Register the patient who dies during admission in hospital and send notification [MORS]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To register the patient as dead and notify relevant actors about this
Conditions for initiation	The patient is admitted to the hospital acute ambulant or admitted
Reason for initiation	Patient dies during the stay at the hospital.
Actions	User actor: Registers the patient as dead Activates Use case <u>TC.S1</u> "Evaluate and send notification [MORS]". No request for an admission report is sent.
Result	The patient is dead. Use Case TC.S1 "Evaluate and send notification [MORS]" is activated.
Alternative actions	1a. User actor enters wrong personal identification number during the registration. See use case AN_S9 1b. User actor enters wrong time of death. See use case RE_S9 1c. User actor has to annul "death" because the patient is not dead anyway. See use case AN_S9
Remarks	

3.9.3 Use case \$9.3	Register the patient who dies (during leave) and send notification [MORS]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarca-	To register the patient as dead during leave and to notify relevant ac-
tion	tors about this
Conditions for initiation	The patient is on leave
Reason for initiation	The hospital is informed that the patient has died during leave
Actions	1. User actor: Ends the patient's leave (optional – can be omitted) 2. System actor: Activates use case TC.S1 "Evaluate and send notification[SLOR]". No request for an admission report is sent (optional – can be omitted) 3. User actor: Registers the patient as dead 2. Activates Use case TC.S1 "Evaluate and send notification[MORS]". No request for an admission report is sent.
Result	The patient is dead. Use Case TC.S1 "Evaluate and send notification[MORS]" is activated. Use Case TC.S1 "Evaluate and send notification[SLOR]" is activated (optional)
Alternative actions	 1a. User actor enters wrong personal identification number during the registration. See use case AN_S9 1b. User actor enters wrong time of death. See use case RE_S9 1c. User actor has to annul "death" because the patient is not dead anyway. See use case AN_S9
Remarks	

3.9.3.1 Use case AN_S9	Cancel death and send notification [AN_MORS]"
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To correct and notify relevant actors about a wrongly sent notification [MORS]
Conditions for initiation	Notification has been sent[MORS]
Reason for initiation	The use cancels death because the wrong patient was selected or if the patient is not dead anyway.
Actions	User actor: cancels death System actor: Activates Use case <u>TC.S1</u> "Evaluate and send notification[AN_MORS]". No request for admission report is sent.
Result	Death is cancelled Use Case TC.S1 "Evaluate and send notification [AN_MORS]" is activated.
Alternative actions	
Remarks	The same ID as for the first sent notification [MORS] is used.
	Subsequently, the user enters the correct registration.

3.9.3.2 Use case RE_S9	Correct death and send notification[RE_MORS]"
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarca-	To correct and notify relevant actors about wrong registration of
tion	death and thereby wrong notification (not wrong personal identifica-
	tion number)
Conditions for initiation	Notification has been sent[MORS]
	Notification[MORS] is the last sent notification.
Reason for initiation	User actor corrects the wrong registration about death
	- Wrong entry of hospital department
	- Wrong entry of hospital department
Actions	User actor: Corrects the wrong information about death
Actions	System actor: Activates Use case <u>TC.S1</u> "Evaluate and send notifi-
	cation[RE_MORS]". No request for admission report is sent.
Result	Information about death is corrected and is now correct.
reduct	information about death to corrected and to now correct.
	Use case TC.S1 "Evaluate and send notification [RE_MORS]" is acti-
	vated with a request that no new admission report is sent from the re-
	cipient system
Alternative actions	
Remarks	Only corrections for hospital department and/or time should trigger
	notification[RE_Type]. Entry of wrong personal identification number
	should trigger cancellation (notification[AN_Type]).
	No consultations of cold to constitutions of the constitutions
	No cancellations should be sent in advance of the corrections.
	The same ID as for the first sent notification [MORS] is used

3.9.4 Use case K9.1	Receive notification about the citizen's death during arrival or admission in hospital
Initiator	System actor: notification[MORS]
Purpose, description and demarcation	To receive notification about the death of a patient.
Conditions for initiation	The citizen is not at home but has left home (on his/her way to the hospital) or is in the hospital.
Reason for initiation	System actor receives notification[MORS].
Actions	1. System actor: Receives and evaluates notification [MORS] (TC.K1)
	2. System actor: Loads and shows notification[MORS]" (<u>TC.K1b</u>)
	3. User actor is informed that a citizen is dead.
	4. System actor: Evaluates notification MORS (TC.K2)
Result	The citizen is dead Notification [MORS] has been received, evaluated and shown in the recipient system.
Alternative actions	
Remarks	Notification about death can potentially be sent on wrong personal identification number, which triggers notification [AN_MORS]. The recipient system is advised to use final registration for patient status death through the CPR-interface.

2.0.5. Hoo oooo K0.2	Receive notification about the citizen's death during leave
3.9.5 Use case K9.2	
Initiator	System actor: notification[MORS]
Purpose, description and demarcation	To receive notification about the death of a patient.
Conditions for initiation	The citizen is on leave Notification[STOR] has been received
Reason for initiation	System actor receives notification[MORS].
Actions	System actor: Receives and evaluates notification[MORS] (TC.K1)
	2. System actor: Loads and shows notification [MORS]" (TC.K1b)
	3. User actor is informed that a citizen is dead.
	4. System actor: Evaluates notification[MORS] (TC.K2)
Result	The citizen is dead Notification [MORS] has been received, evaluated and shown in the recipient system.
Alternative actions	
Remarks	It is optional for the sending system to send notification [SLOR] prior to notification [MORS]. Thus, notification [SLOR] may have been received prior to receiving notification [MORS].
	Notification about death can potentially be sent on wrong personal identification number, which triggers notification [AN_MORS]. The recipient system is advised to use final registration for patient status death through the CPR-interface.

3.9.5.1 Use case AN_K9	Receive notification about cancelled death [AN_MORS]
Initiator	System actor: notification[AN_MORS]
Purpose, description and demarcation	To receive notification about a wrongly received notification [MORS]
Conditions for initiation	Notification[MORS] is received
Reason for initiation	System actor receives notification [AN_MORS].
Actions	 System actor: Receives and evaluates notification [AN_MORS] (TC.K1) System actor: loads and shows notification [AN_MORS] (TC.K1b) User actor is informed that a previously received notification [MORS] is cancelled System actor: evaluates notification [AN_MORS] (TC.K2)
Result	Death is cancelled Notification[AN_MORS] has been received, evaluated and shown in the recipient system.
Alternative actions	
Remarks	

3.9.5.2 Use case RE_K9	Receive notification about corrected death [MORS]
Initiator	System actor: notification[RE_MORS]
Purpose, description and demarca-	To receive corrections to an already received notification [MORS]
tion	
Conditions for initiation	Notification [MORS] is received
	Notification[MORS] is the last received notification.
Reason for initiation	System actor receives notification[RE_MORS].
Actions	System actor: receives and evaluates notification [RE_SLOR] (TC.K1)
	2. System actor: loads notification [RE_SLOR], which replaces the previously received notification (TC.K1c)
	3. User actor: evaluates notification [RE_SLOR]. New admission report is not sent (TC.K2)
Result	Notification[RE_MORS] is received, evaluated and loaded in the recipient system.
Ali	Admission report is not automatically sent.
Alternative actions	
Remarks	Only corrections for the hospital department and/or time should trigger the notification [RE_Type].
	Entry of wrong personal identification number should trigger the cancellation (notification[AN_Type]).
	The same ID is used.

3.10 Use case 10: Change of type of hospital stay (from acute ambulant to admitted)

3.10.1 Use case S10	Admit patient who is registered as acute ambulant [STIN]
Initiator	User actor: Nurse/secretary at the hospital
Purpose, description and demarcation	To admit the acute ambulant patient and notify relevant actors about the changed hospital status of the patient.
Conditions for initiation	The patient is referred to admission during his/her acute ambulant hospital stay.
	Notification has already been sent[STAA]
	The patient is not transferred from another hospital.
Reason for initiation	The patient has arrived from acute ambulant department to a new department to be admitted.
Actions	User actor: register the patient as present and admitted System actor: Activates use case <u>TC.S1</u> "Evaluate and send notification[STIN]". No request for admission report is sent.
Result	The patient is admitted.
	Use Case <u>TC.S1</u> Evaluate and send notification[STIN]" is activated.
Alternative actions	1a. User actor enters the wrong personal identification number during the registration/admission → See use case AN_S1 1b. User actor enters the wrong hospital department or time of hospital stay → RE_S1
Remarks	

3.10.2 Use case K10 Initiator Purpose, description and demarcation	Receive notification about changed status for an acute ambulant citizen [STIN] System actor: notification [STIN] To be informed that a citizen who was an acute ambulant patient has now been admitted.
Conditions for initiation	Notification has already been received [STAA]
Reason for initiation	System actor receives notification[STIN].
Actions	 System actor: Receives and evaluates notification [STIN] (TC.K1) System actor: Loads and shows notification [STIN]" (TC.K1b) User actor is informed that a citizen is admitted. System actor: Evaluates notification [STIN] but does not automatically send admission report (TC.K2).
Result	The citizen is admitted Notification[STIN] has been received, evaluated and shown in the recipient system.
Alternative actions	
Remarks	The new notification [STIN] is considered the current status of the patient and thus closes/ends the first admission. Previously received notification [STAA] should be considered historical.

3.11 Use case 11: End hospital stay manually

Manual completion of hospital stay may be relevant in the following scenarios:

- 1. The citizen is transferred to a department/hospital that do not send notifications and are discharged from here.
- 2. Absent notification [SLHJ] due to an error

3.11.1 Use case K11	Manually end the citizen's hospital stay
Initiator	The employee in the municipality
Purpose, description and demarcation	To manually end a citizen's hospital stay due to lack of notification [SLHJ]
Conditions for initiation	The citizen is discharged to his/her home, but no notification [SLHJ] is received. The citizen is registered as 'admittted' in the recipient system
Reason for initiation	The municipality is informed that the citizen is discharged to his/her home (by telephone, secure e-mail, the citizen, CareCommunication standard, other)
Actions	 User actor: Is informed that the citizen is discharged to his/her home. User actor: Manually ends the admission in the system System actor or User actor: resumes the citizen's care services
Result	The citizen is discharged from the hospital and is back home. The citizen's admission is closed/ended in the recipient system The citizen's paused care services are resumed.
Alternative actions	
Remarks	It is up to the recipient system to set up rules to resume care services automatically when receiving a notification [SLHJ].

4 Technical use cases

In this paragraph, the following technical use cases are described:

- 1. Use case TC.S1: Evaluate and send notification[Type] (sender)
- 2. Use case TC.K1: Receive and evaluate notification[Type] (recipient)
 - a. Use case TC.K1a: Discard notification [Type] (recipient)
 - b. Use case TC.K1b: Load and show notification[Type] (recipient)
 - c. Use case TC.K1c: Load correction notification[RE_Type] (recipient)
- 3. Use case TC.K2: Evaluate notification[Type] and send admission report if necessary (recipient)

The technical use cases refer to a number of notification types presented in section 1.2.

4.1.1 Use case TC.S1	Evaluate and send notification[Type]
Initiator Purpose, description and demarcation Conditions for initiation	User actor To evaluate whether a registration in the system should trigger a sent notification and afterwards send the notification. User actor performs an action in the system.
Reason for initiation	
Actions	 User actor: Performs an action in the system System actor: Evaluates whether to send a notification System actor: Based on the evaluation, sends a notification of the type of notification[Type]
	The notification is populated with content as described in the standard
Result	The system has sent notification of the type: [STAA] [AN_STAA] [RE_STAA] [STIN] [AN_STIN] [RE_STIN] [SLHJ] [AN_SLHJ] [RE_SLHJ] [MORS] [AN_MORS] [RE_MORS] [STOR] [AN_STOR] [RE_STOR] [SLOR] [AN_SLOR] [RE_SLOR]
Alternative actions	
Remarks	Type of hospital stay must be visible. There is a distinction between acute ambulant and admitted. Today, these contact types are used in all PAS/EPR systems, however, new types of contacts or updates to current contact types are possible in the future. Therefore, the new notification standard must be able to handle future contact types or changes to current needs. This is handled by the qualification list on the external classification server.
	In the case of cancelled or corrected notification, an admission report is never requested.
	Remark concerning corrections: Corrections are only sent to the most recent sent notification. If a correction is made for, for example, the time of admission of a patient who has been discharged, this correction should not be sent.

4.1.2 Use case TC.K1	Receive and evaluate notification[Type]
Initiator	System actor
Purpose, description and demarcation Conditions for initiation Reason for initiation	To receive notification[Type] and evaluate whether it should be i) discarded, ii) loaded and shown to the User actor, or iii) loaded Notification is received[Type]
	Notification is received[1ype]
Actions	 System actor: Receives and notification[Type] System actor: Sends positive receipt for received notification[Type] (CTL03/XCTL03) System actor: Evaluates whether notification[Type] should be a. Dischared (not legal authority to receive it) → Use case TC.K1a is activated b. Loaded and shown: notification[Type] + notification[AN_Type] → Use case TC.K1b is activated c. Loaded: notification[RE_Type] (corrections to a notification previously received) → Use case TC.K1c is activated
	The notification with content as described in the standard is received
Result	The system has received and evaluated a notification of the type: [STAA] [AN_STAA] [RE_STAA] [STIN] [AN_STIN] [RE_STIN] [SLHJ] [AN_SLHJ] [RE_SLHJ] [MORS] [AN_MORS] [RE_MORS] [STOR] [AN_STOR] [RE_STOR] [SLOR] [AN_SLOR] [RE_SLOR] One of the following use cases is activated: TC.K1a, TC.K1b, TC.K1c
Alternative actions	2a. Receipt of notification [Type] failed → send negative receipt (CTL02/XCTL02)
Remarks	A receipt must be sent for all notifications received, including the notifications which are discarded. (TC.K1a)

4.1.3 Use case TC.K1a	Discard notification			
Initiator	System actor			
Purpose, description and demarcation	To discard a notification[Type], because the citizen does not receive care services that legally authorises receipt of notification [Type]			
Conditions for initiation	Notification[Type] is received and evaluated (TC.K1)			
Reason for initiation	TC.K1 is executed			
Actions	 System actor: Discards notification[Type], because the citizen does not receive care services that legally authorises receipt of the notification. 			
Result	The system has discarded notification of the type: [STAA] [STIN] [SLHJ] [MORS] [STOR]			
Alternative actions	2a. Receipt of notification [Type] failed → send negative receipt (CTL02)			
Remarks	A receipt must be sent that the discarded notification has been received cf. <u>TC.K1</u>			

4.1.4 Use case TC.K1b	Load and show notification[Type] + notification[AN_Type]		
Initiator	System actor		
Purpose, description and demarca-	To load and notify User actor that notification is received [Type] + noti-		
tion	fication[AN_Type].		
Conditions for initiation	Notification[Type] or notification[AN_Type] is received and evaluated (TC.K1)		
Reason for initiation	TC.K1 is executed.		
Actions	 System actor: Loads notification[Type] or notification[AN_Type] in the system System actor: Shows notification[Type] or notification[AN_Type] to User actor. System actor: Activates TC.K2 The notification with content as described in the standard is received		
Result	The system has loaded and shown notification of the type: [STAA] [AN_STAA] [STIN] [AN_STIN] [SLHJ] [AN_SLHJ] [MORS] [AN_MORS] [STOR] [AN_STOR] [SLOR] [AN_SLOR]		
Alternative actions			
Remarks	A receipt must be sent that the notification has been received cf. TC.K1		

4.1.5 Use case TC.K1c	Load corrected notification[RE_Type]		
Initiator	System actor		
Purpose, description and demarcation	To load notification[RE_Type] in the system with or without notifying the User actor		
Conditions for initiation	Notification[RE_Type] is received and evaluated (TC.K1)		
Reason for initiation	TC.K1 is executed.		
Actions	 System actor: Loads notification[RE_Type] System actor: Activates <u>TC.K2</u> 		
Result	The systemet has loaded a notification of the type:		
	[RE_STAA]		
	[RE_STIN]		
	[RE_SLHJ]		
	[RE_MORS]		
	[RE_STOR]		
	[RE_SLOR]		
	The notification with content as described in the standard is received		
Alternative actions			
Remarks	The individual system and municipality has to assess how corrections should be loaded and shown to the user.		
	A receipt must be sent that the notification has been received cf. TC.K1		

4.1.6 Use case TC.K2	Evaluate notification[Type] and send admission report if necessary		
Initiator	System actor		
Purpose, description and demarcation	To send admission report if this is requested in the notification [Type]		
Conditions for initiation	Notification[Type] is loaded in the system		
Reason for initiation	TC.K1b or TC.K1c is executed.		
Actions	System actor: Evaluates notification[Type] with requested admission report		
	2. System actor: Sends admission report if requested		
Result	The system has evaluated and sent admission report if necessary		
Alternative actions			
Remarks	A receipt must be sent that the notification has been received cf. TC.K1		

5 Corrections

In this section, use case corrections will be documented continuously.

Version	Date	Responsible	Description
0.9.2	24.06.2020	KML	Note to use case K9 is added. Use case 2.6.1.2 and 2.6.2.2 is added. Appendix 2 is removed
0.9.3	09.10.2020	KML	Notification [SLAN[and use cases related to this has been added
1.0	26.01.21	МВК	Notification [SLAN] and use cases related to this have been removed The following use cases have been added; - S9.3 Death during leave - K11 End of admission (manually) Description of how to handle a new notification [STIN] when a patient has been transferred to a new hospital has been added Appendix I has been removed. Minor textual and layout adjustments