

medcom	ID and process	ID and title	Init	Version	Datum
	Sharing EKG	Shared EKG	TRI, RCH, SGA	1.0	2026-04-09

SHARED EKG RECORDING

Use cases

Versions			
Date	Author initials	Version	Amendment
Mar 2026	TRI, RCH, SGA	0.0.1	First draft
Apr 2026	TRI, RCH, SGA	0.0.2	Second draft
2026/04/09	TRI, RCH, SGA	1.0.0	First version release

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1 Background and purpose

This document contains use case descriptions for the implementation of the EKG Recording standard.

The use cases describe detailed processes of user interactions with the computer systems in various situations. The use cases merge data requirements with business rules and are intended to ensure complete and consistent implementation and use of the standard.

The target group for these use cases is the system suppliers and managers who will participate in the implementation and use of the EKG Recording standard.

2 References and terms

The use case descriptions should be read in conjunction with the following set of documentation for EKG Recording:

Documentation	Version	Link/reference	Description
General technical use cases	1.0	https://med-comdk.github.io/dk-medcom-document/	Technical use case descriptions for the application of MedCom's FHIR Documents
Standard documentation	1.0	Webpage: https://med-comdk.github.io/dk-medcom-ekg/ IG: https://medcomfhir.dk/ig/ekg/	Documentation for the standard EKG Recording
Contents and Business Rules			Available at NSPOP

Terms	Description
EKG	Electrocardiogram
User actor	System user, i.e. persons using the described systems via the user interface
GP	General Practitioner
System actor	System supplier and manager. Responsible for all system functions and infrastructure
EKG Middleware	Software interoperability layer between electrocardiogram (EKG) devices and clinical information systems, enabling the standardization, transmission, and management of heart data. Ex.: MUSE, EKG Talks
Integration platform	Shares the EKG as a PDF attached to the MedCom's FHIR document standard "XXX"
NSP/DDS	National Service Platform and Document Sharing Service . Infrastructure that ensures the sharing of data between the healthcaresystems.
On-demand	Sharing data on demand. Data is retrieved and displayed only when creating a query from a user actor. Data is only displayed but not stored in the receiving system.
Samtykkeservice	NSP service which allows the patient to block the sharing of data from DDS. Managed by SDS via the Consent Service
Document Provider System	System which shares data to DDS.
Document Consumer System	System which requests, receives and displays data from DDS.

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3 Use Case diagram

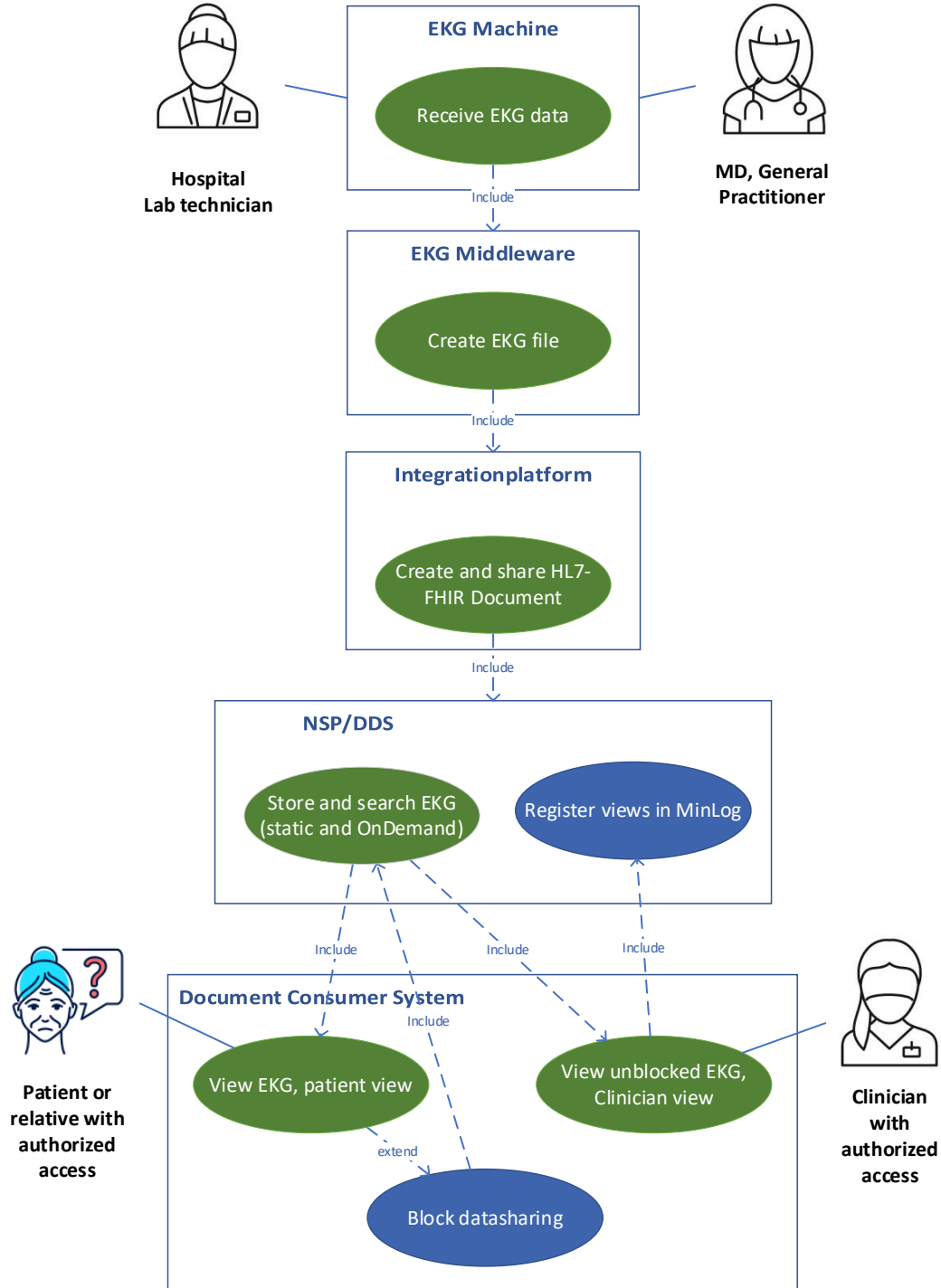


Figure 1: Use cases describing processes for sharing EKG's from hospitals and GP clinics. The green processes are tested by MedCom, whereas the blue is tested by the Danish Health Data Agency (DA: Sundhedsdatastyrelsen).

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4 Use cases

Use case S1: Create EKG	
Initiating actor	User actor: clinician
Purpose	To record and share an EKG
Starting conditions/prerequisites	User actor measures the patient's heart activity with an EKG device which collects data and shares data to middleware.
Initiating event	User actor records at least one EKG on the EKG machine.
Actions	<ol style="list-style-type: none"> 1. User actor selects at least one EKG for sharing and optionally adds a note to the EKG recording(s) to be shared. 2. User actor shares EKG Recording. <i>(Note that some systems will generate stable documents, while others will generate on-demand documents.)</i> <ol style="list-style-type: none"> a. Stable documents: MedCom FHIR EKG Recording document(s) must be placed in the Danish National Document Sharing Infrastructure. b. On-demand documents: MedCom FHIR EKG Sharing Document(s) must be generated on request through the Danish National Document Sharing Infrastructure.
Result	User actor has completed and shared at least one EKG Recording document, containing exactly one EKG recording each.
Alternative actions	S1.A1: Update EKG note
Corrective actions	S1.C1: Cancel EKG
Observations	

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Alternative use case S1.A1: Update EKG note	
Initiating actor	User actor: clinician
Purpose	To record and share an EKG.
Starting conditions/prerequisites	User actor has measured the patient's heart activity with an EKG device and has shared the EKG document.
Initiating event	User actor opens a previously completed and shared EKG document.
Actions	User actor adds, edits or deletes a comment on existing EKG and reshares the EKG document.
Result	Stable documents: User actor has deprecated and replaced previously shared EKG document. On-demand documents: User actor only shares the newest version of the EKG document.
Alternative actions	N/A
Corrective actions	N/A
Observations	

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Cancel use case S1.C1: Cancel EKG	
Initiating actor	User actor: clinician
Purpose	To record and share an EKG
Starting conditions/prerequisites	User actor measures the patient's heart activity with an EKG device.
Initiating event	User actor opens a previously shared EKG document.
Actions	User actor cancels the EKG document.
Result	Stable documents: User actor has deprecated the shared EKG document. On-demand documents: User actor does not share the cancelled EKG document.
Alternative actions	N/A
Corrective actions	N/A
Observations	

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Use case R1: View EKG	
Initiating actor	User actor (Authorized healthcare professional or authorized citizen)
Purpose	Viewing the patient's EKG
Starting conditions/prerequisites	The user actor has access to the patient's data in document consumer system.
Initiating event	User actor wants to access the patient's EKG data.
Actions	<ol style="list-style-type: none"> 1. System actor ensures that the user actor has the necessary authentication to see the EKG data. 2. System actor performs a call to the infrastructure to retrieve all EKG data. 3. System actor receives the patient's EKG data and displays the data to the user actor. 4. User actor views the patient's EKG data.
Result	The user actor has viewed the patient's EKG data.
Alternative actions	R1. A1: The patient has no EKG data.
Corrective actions	N/A
Observations	<p>Regarding action 4:</p> <p>The EKG data in the patient's view in a document consumer system should include instructions that refer the viewer to the responsible healthcare provider if they have questions about the viewed data – or lack thereof.</p>

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Alternative use case R1.A1: No EKG data	
Initiating actor	User actor (Authorized healthcare professional or authorized citizen)
Purpose	Viewing the patient's EKG
Starting conditions/prerequisites	The user actor has access to the patient's data in document consumer system.
Initiating event	User actor wants to access the patient's EKG recording.
Actions	<ol style="list-style-type: none"> 1. System actor ensures that the user actor has the necessary authentication to see the EKG data. 2. System actor performs a call to the infrastructure to retrieve all EKG data. 3. System actor receives feedback about missing data. 4. The user actor is notified that the patient does not have any shared EKG data.
Result	User actor has read the message which states that the patient does not have any shared EKG data. The message must include a text stating the two possible reasons stated in "Observations" below.
Alternative actions	N/A
Corrective actions	N/A
Observations	<p>There are two possible reasons when no EKG documents are available:</p> <ol style="list-style-type: none"> 1) No EKG Recording documents have been shared for this patient. 2) The patient has blocked access to their EKG Recording Documents using the Consent Service (DA: Samtykkeservicen).