Emergency stroke care

Policy Id & Name	Electronic Medical Records (EMR) accessible to the authorised acute care team
Objectives	Patient data contained in the electronic medical record is available for processing (read/add) by healthcare professionals who are part of the acute care for the time providing treatment to the patient
Resources/Scope	Patient data in EMR stored on the cloud
Scenario	Stroke acute care

The patient has her EMR encrypted and stored in the CSP. We specifically consider the case where a patient is in an emergency situation. The procedure is as follows:

- The call centre professional **receives a call** from someone on behalf of the patient.
- During the telephone call, the call centre professional follows a triage protocol where she/he needs to **read** a patient's EMR and **add** new information about the patient's current condition.
- The call centre professional **requests** the ambulance treatment team to pick up the patient.
- Ambulance professionals should have access to **read** a patient's EMR between the emergency request until the delivery of the patient at the hospital.
- Ambulance professionals **have extra time to add** new data to the EMR after delivering the patient at the hospital.
- As soon as the ambulance team decides which hospital the patient will receive treatment, an ambulance professional **requests** the hospital service.
- As soon as the patient arrives at the hospital, a hospital professional **sends a notification** to the system.
- Hospital professionals should **have access to read and add** a patient's EMR between the treatment request until patient discharge.
- If the patient needs to be transferred to a second hospital, the first hospital team should **have access** to the EMR until the patient arrives at the second hospital.
- The second ambulance used to transfer the patient between hospitals should also have access to **read** a patient's EMR between the transfer request until the delivery of the patient at the second hospital.
- Professionals in the second ambulance have extra time to **add** new data to the EMR after delivering the patient at the hospital.
- If the hospital team does not send the patient arrival notification, a default time must be set to revoke the access for each team.

Constraints:

Due to GDPR and related legal limitations the health professionals, as well as access credentials to external systems, MUST BE:

· KEPT ENCRYPTED.

· accessed by authorised personnel ONLY.

In addition, according to Art. 6 GDPR Lawfulness of processing, an exception is granted for emergency treatment cases:
"Processing shall be lawful only if and to the extent that at least one of the following applies: d) processing is necessary in order to protect the vital interests of the data subject or of another natural person;" This imposes that access MUST BE:

· granted during the period of treatment.
· revoked after end of treatment.

Due to corporate policies, these data MUST ALSO BE:

· accessed only during the shift of the professionals involved.
· accessed only if the team proves the requests to participate in the treatment team of that patient.
· accessed only if the team members authenticate themselves at a legitimate location (call centre, ambulance or hospital).

Definitions used below:
In all cases, the professionals need to identify themselves as legitimate staff of the corresponding institution and acute care team that was involved on the patient's treatment (delegated from the acute care team that is treating the patient currently). Moreover, all professionals must fulfil the required obligations to be able to continue processing the EMR, in some cases, the right to add new data is only granted if the professional fulfil the obligations.

- All professionals must be authenticated and authorized as part of an acute care team
- check-in/check-out: Professional start work shift/Professional end work shift
- default call centre, ambulance, hospital time: safeguard typically large time to revoke access to the data in case some event is missed, or communication is lost.
- extra time: ambulance has extra time to read and add new data about the current treatment after delivering the patient at the hospital
- Ambulance location:
- AmbulanceHasPickedPatient: TRUE=, FALSE=
- Emergency Request: call centre requested and ambulance to the service and the ambulance has accepted to take this request.
- Location: refers to professional location
- AmbulanceHasDelivered:
- NEAR: range of m2

Obligations:
Call centre and ambulance professionals must provide:

- The identification of a legitimate ambulance team (or hospital) to the system in a timeframe (delegation)
- The timestamp of the request and acceptance of the delegated team.
- The patient current location

Ambulance and hospital professionals to have access right to add the EMR must provide:

- The timestamp that the patient was pick up → ambulance professionals
- The timestamp that the patient was arrived → hospital professionals

	Explicit Access Attempt/Request info			**Context Conditions**		
#	**Requester**	**Action**	**Resource**	Contextual Attributes **Operator** *Parameters*	**AND/OR**	**Permit / Deny**
1.	Call centre professional	Read/Add	EMR	Location **IN** *Call centre premises* Current Shift **BETWEEN** *check in – check out.* Emergency Phone Call **=** *yes* [%ambulance location NOT (Ambulance was called) [Ambulance was called Ambulance location **<>** the patient's location]] [%time Current Time **BETWEEN** time of the emergency call – default call center time NOT (AmbulanceHasPickedPatient)]	AND AND AND OR AND AND AND AND	**Permit**

				Connection Protocol **=** *HTTPS*	
2.	Ambulance professional	Read	EMR	Location **NEAR** *Ambulance location* AND Current Shift **BETWEEN** *check in – check out* AND Acute Care Team = identification AND Emergency Request to Acute Care Team **=** *yes* AND Ambulance location <> hospital AND Current Time **BETWEEN** *time of the emergency request – default ambulance time* AND NOT (AmbulanceHasDelivered patient) AND *Connection Protocol* **=** *HTTPS*	**Permit**
3.	Ambulance professional	Add/Read	EMR(Subset about the current ambulance treatment)	Location **NEAR** *Ambulance location* AND Current Shift **BETWEEN** *check-in – check-out* AND Acute Care Team = identification Emergency Request to Acute Care Team **=** *yes* AND AmbulanceHasDeliveredPatient AND Current Time **BETWEEN** *time of the patient delivery – extra ambulance time* AND Connection Protocol **=** *HTTPS*	**Permit**
4.	Professionals at emergency	Read/Add	EMR	Location **IN** *hospital premises* AND Current Shift **BETWEEN** *check in – check out* AND	**Permit**

	care of the hospital			Acute Care Team = identification AND Emergency Request to Acute Care Team = *yes* AND Current Time **BETWEEN** *time of the emergency request – default hospital time* AND [%restrict default time [NOT (Ambulance was called) AND Current Time **BETWEEN** *time of the emergency request – time of the patient discharge*] OR [Ambulance was called AND Ambulance location **<>** other hospital AND NOT(AmbulanceHasDelivered patient at another hospital)]] AND Connection Protocol = *HTTPS*	
Rule Combining Algorithm		**Deny unless permit**			