The basic ICT components of the system include a data repository, the rules engine, several knowledge sources, some data mining tools and a human–computer interface, allowing remote access. The EHCR must be capable of integrating data across providers and from personal health records to form a longitudinal view of an individual’s health status and healthcare.

**The K4CARE Database** consists of two parts: EHCR and support part. The **EHCR** describes patients and their documents, while the **support part** stores information about professional actors, their roles, groups of actors (e.g., evaluation units) or relations between entities (e.g., who is the family doctor for particular patient).

The master tables of the K4CARE Data Model are AdministrativeData, Patient, Document, ProfessionalActor, Entity, GroupOfEntity, and EntityRole.

**Table AdministrativeData** stores personal information like address, phone etc. of the K4CARE actors.

**Table Patient** identifies the K4CARE patients.

**Table Document** stores EHCR documents as XML strings. Some parts of these documents are extracted and can be used for fast searching:
- **validFrom** and **validTo** limit validity of the document;
- **nextTimeToConcern** is the time when the document has to be taken into account (e.g., invitation to some action, reminder, etc.);
- **state** of the document (e.g., open);
- **createdBy** and **createdByOrganization** describe the origin of the document.

Documents are related to one patient (the subject of the document) and they can be also related to other documents. Each document is of a predefined type of table **DocumentType** (e.g., Actor assignment), which falls into one of the purposes of table **DocumentPurpose** (e.g., Request, Authorization).

**Table ProfessionalActor** identifies the K4CARE actors. Through table **Entity**, professional actors may participate on the documents in various roles. The fact that “one particular actor participates on one particular document in one particular role” is captured in table **EntityRole**.

The database also stores information about the activity in the K4CARE home-care centers.

**Table GroupOfEntity** stores the actors that are part of the K4CARE professional groups, as for example an Evaluation Unit. In the same way, it stores the links between all the professionals (family doctor, nurse, etc.) that are treating each patient at a certain period of time. This feature is expressed by the relationship subjects between **EntityRole** and **Patient**.

In the K4Care project, the EHCR of one patient consists of the set of all the EHCR documents that are related to that home care patient.
the document-oriented EHCR in K4CARE is divided into two major parts:

- Developing the common data structure for each document (i.e., header and footer).
- Developing the document specific data structure for each document (i.e., body).

The header and the footer of all the K4CARE documents have a common structure, while the body is different in case of different type of EHCR documents. The body can be restructured into sections (an identifiable part of the document).

We have chosen the XML Schema language to formalize our EHCR model. XML is a modern and widely used platform independent language. According to this schema the instances of our EHCR model are XML documents. These documents are stored in the PostgreSQL relational database.

**The Technological Context:** On the level of business logic, Java Beans are generated to be used by Java applications. These Java Beans can be easily stored into and retrieved from our database using Hibernate.

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The K4CARE project is developed by thirteen EU partners: eight centres with geriatric, medical and healthcare competencies and five ICT and CS centres.

The K4CARE Data Model comprises data structures that are underlying the services performed in home care (HC). The data model reflects all entities in HC, namely actors (patient, family doctor, nurse, and other care givers), services, procedures, and documents. An important part of the model is an EHCR, Electronic Health Care Record. The EHCR must: integrate data from multiple sources; capture data at the point of care; and support caregiver decision making.