Everything about Open Source Medical Software

Medicine/Health sector is one of the most predominant sectors in which open source software prevail. The importance of having non-proprietary software running, processing and storing medical data is increasing each day, as the issues of privacy, security and cost become more important.

In this long, detailed article, we'll examine some of the most important open source medical software according to their categorization, and we'll see many lists of available open source software in each field.

Glossary of Open Source Medical Software

Let us start first by learning the different available types of medical open source software and their categorization, so that we can easily talk about them later.

What is Electronic Medical Record (EMR) Software?

An **EMR** software, also known as **Electronic Health Record (EHR)**, is a special program designed to store, manage, process and manipulate electronic records of patients medical history and information. Think of the programs needed in each hospital to manage the list of patients, their medical information (medical issues, symptoms, treatment dates, other information... etc), and other related data.

We call these programs "Electronic Medical Record" programs, also known as EMR.

EMR software are extremely useful for the health sector, because digitalization of medical records saves time, cost and effort for both doctors and patients. EMR can be thought of as an alternative to paper chart of a patient.

Using an EMR is a must in any hospital or clinic in today's world, so that medical information can be stored and accessed any time when needed, especially with the increasing number of patients.

What is Hospital Information System (HIS)?

A **hospital information system (HIS)** is just like an EMR, but from the hospital administrators point of view. It is the responsible system for managing patients, doctors, health units and other

sectors needed in the hospital. This software, of course, can be accessed with different access levels by the people working in the hospital.

Using an HIS saves time and creates huge efficiency for management rather than depending on manual methods or a combination of other larger set of software.

Some programs in the market are both HIS and EMR, while others specialize in one category only.

What are Medical Imaging/DICOM Viewers Software?

Medical images such as X-ray are stored in different types of formats rather than traditional normal image formats like PNG or JPG. Medical images contain more information, and sometimes they could be 3D. They could also be viewed or edited to display a different set of layers/information within, and hence, require special programs to display them.

Digital Imaging and Communications in Medicine (DICOM) is the standard format in which medical images are stored and transmitted digitally, as most medical/health institutions in the world use it to store various types of medical images.

These special programs are simply known as "**Medical Imaging Software**", or **DICOM viewers**. There are tons of these software out there in the market with different user interfaces, features and costs.

Other Types of Medical Software

The medical open source ecosystem is so large.

There are many other categories of software in the market, such as:

- Visualization toolkits (Toolkits and libraries to develop 2D/3D DICOM viewers).
- Small clinics management software.
- Telemedicine software (Remote health examination between doctor and patient over the Internet).
- Medical push notifications services.
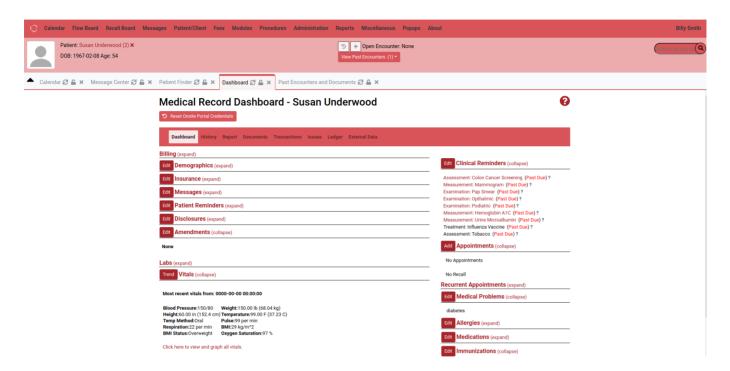- Much more.

Best Open Source Medical/Health Software

Now, we'll go in a tour of the most well-known, updated and efficient medical open source software in the market.

We have divided these software according to their category for the ease of browsing.
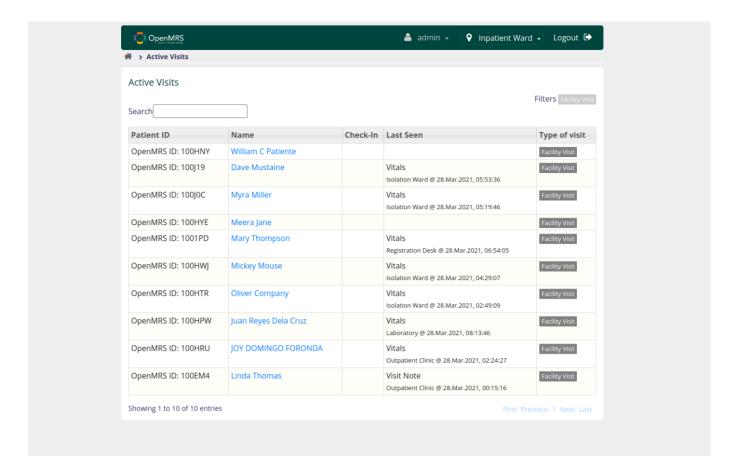
Top Open Source EMRs and HISs

OpenEMR

- One of the most widely-used EMR software in the entire world.

- Web-based EMR software developed in PHP & MySQL.

- HIPAA-compliant by default.

- Multi-language support is available.

- Reports (including billing) are supported for a wide range of patients data.

- Licensed under the GPL license.

Get OpenEMR. You can also try an online demo of it.

OpenMRS

- Collaborative project with volunteers from all over the world.
- Developed in Java and MySQL.
- Works on Windows, macOS and Linux.
- Supports the use cases of pharmacies as clinics as well.
- Uses a modular design by default, allowing to add extra functionality easily whenever needed.
- Relatively modern user interface.
- Licensed under the MPLv2 license.

Get OpenMRS. An online demo is available as well to try it before download.

GNU Health

- Mainly a hospital information system (HIS).
- Programmed in Python and Tryton framework.
- Cross-platform and works on Windows, macOS and Linux.
- Works on embedded devices (ARM) as well, capable of running on a Raspberry Pi.
- Part of the GNU project since 2011.
- Modular approach, with tens of modules for different tasks such as accounting, genetics, laboratories, services, imaging, history, EMS and much more.

- Available as a pre-shipped Linux distribution based on openSUSE.

- Licensed under the GPL license.

Get GNU Health.