Title:

What is Electronic Health Record? All you need to know.

Goal:

give info about EHR

Reader:

entrepreneur in healthcare (clinic's owner)

Type:

New blog

Stage:

Awareness

References:

- https://www.healthit.gov/faq/what-electronic-health-record-ehr

- https://www.cms.gov/Medicare/E-Health/EHealthRecords/index.html

- https://en.wikipedia.org/wiki/Electronic_health_record

- https://www.usfhealthonline.com/resources/key-concepts/what-are-electronic-health-records/

- https://searchhealthit.techtarget.com/definition/electronic-health-record-EHR

- https://www.aafp.org/practice-management/health-it/product/intro.html

- https://www.practicefusion.com/blog/ehr-vs-emr/

- https://nnlm.gov/mcr/training/technology-program/electronic-health-records-ehrs

- https://ehrintelligence.com/features/emr-v.-ehr-electronic-medical-health-record-differences

1. Intro (no title): What is EHR system, where and what is it used for?

Term's short description, its short history - first time of usage, where was involved, who uses, where is used (hospitals. clinics, etc.) Give statistics of its wide usage in the USA.

2. H2: What is Electronic Health Record?

Describe problems that are met during paper records usage and that are not met in EHRs usage. (List of cons)

https://blog.drchrono.com/paper-vs-electronic-medical-records/

3. H2: EHR vs Paper Records

How do EHRs differ from paper records? What are the disadvantages of paper records usage?

4. Main features of EHR systems

What features does EHR system provide? Write list of points with the description to each one. Describe the difference between EHR and EMR.

5. H2: Top 5 EHRs

Are EHRs popular within clinics and hospitals? Short general description about EHRs popularity. Give interesting statistics about its good influence on physicians' practices. What are widely-used EHR apps and systems? Choose 5 most popular EHR systems in a list and describe them in short.

- Epic
- Cerner
- MEDITECH
- CPSI
- Allscripts

https://med.stanford.edu/content/dam/sm/ehr/documents/EHR-Poll-Presentation.pdf

6. H2: Main EHR standards

What are EHR standards? Write why it is necessary to keep to EHR standards and what they are made for.
List of 5-7 primary standards with short descriptions.

- HIPAA

- Hitech

- DICOM

- HL7

- FHIR

- ISO

7. H2: Cost of EHR implementation

How much does EHR involvement cost? Write what is the range in costs of EHR installing, describe possible expenditure. Describe the average upfront cost, yearly cost, and 5 year total cost of ownership for on-site and SaaS EHR.

https://www.healthit.gov/faq/how-much-going-cost-me

8. H2: Benefits of Electronic Health Records

What are the benefits of EHR? Give the list of pros with the descriptions to each one.

https://www.healthit.gov/topic/health-it-basics/benefits-ehrs

9. H2: Challenges in EHR usage

What challenges you can face while using EHR? Give the list of cons with the description to each one.

- Data privacy

- Unexpected expenses

- No access to EHR system

10. H2: EHR 2019 trends

Give a list of top 3 EHR trends 2019 with its main representatives (platforms) and short descriptions to each one.

- EHR mobile apps (drchrono, Meditab, Medlium)

- Cloud-based EHRs (Amazing Charts, athenahealth, Practice Fusion)

- Adoption to patient's portals (RelayHealth, CPSI, Allscripts)

11. H2: Summary

Write a summary and say about the need in EHR within hospitals and clinics. Sum up what EHR is and why people need it.

H1: What is Electronic Health Record? All You Need to Know

Meta title: All about Electronic Health Records, Their Advantages, Challenges and Trends

Meta description: Electronic Healthcare Record is the systematized collection of patient health records in a digital format, which is stored online so you can access it from anywhere at any time.

Either you are a newcomer in healthcare or already manage your clinic and wish for modernization, think of implementing electronic health records. If you don't implement EMR or EHR in the coming future, your practice will be considered outdated and underperforming.

Nowadays, such records are mostly familiar to clinicians and have replaced practically all paper-based ones. Moreover, paper medical records are not only inconvenient but also may be slowing down your medical practice.

At least 79% of clinicians, according to the Medical Economics Physician Report in 2018, complained about inconvenient paperwork that wastes their priceless time and effort. That is why physicians should involve electronic healthcare systems in their practices.

So, what is EHR? How does it work? How do you implement it? How much does it cost? Read on to learn the answers to all these questions.

What is an Electronic Health Record?

EHR is the systematized collection of patient electronically-stored health records in a digital format, which is stored online so you can access it from anywhere at any time. It was approved by the Institute of Medicine in 1991, and later it turned into the health system's revolutioner.

Nowadays EHRs have gained their popularity and become widely-used: nearly 9 in 10 physicians (80%) in the USA in 2017 had adopted electronic health record software instead of paper-based records. EHR doesn't only contain medical data but also allows for sharing it. EHR makes health information accessible to authorized providers across health organizations, helping to inform clinical decisions and coordinate patient care.
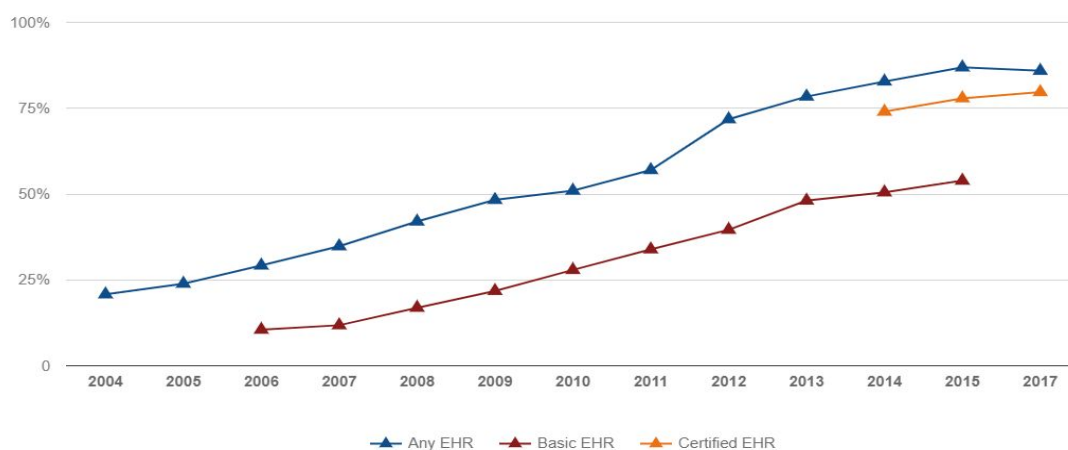
People often mistakenly think e-health record systems have the same meaning and features as e-medical record systems. They are frequently used in one context considered to be synonyms, but it is essential to find out a definition of each word to compare EMR vs EHR.

Electronic Medical Record systems, as well as EHRs, are used to document medical information on many patients over long periods. These systems organize and present data in ways that assist clinicians with:

- interpreting health conditions

- placing orders

- providing ongoing care

- scheduling

- billing, etc.

But the main feature that differs EMRs from EHRs is that EMRs aren't created to be shared with other practices, hospitals, pharmacies, etc.

Anyway, both of these systems provide better patient care than time-consuming paperwork.

EHR vs Paper Records

Unfortunately, a large number of physicians still prefer paper-based records due to their ease of use and familiar format, ignoring the fact that EHRs are rapidly entering healthcare.

They believe it is easier to pull up information from a file to examine and record notes than to enter the keywords and IDs to access data. And, in their view, a pile of paper is cheaper than software. Furthermore, not everyone is tech-savvy and ready to get used to new technology.

Nevertheless, paper records are only becoming vestiges from the past because of their inconvenient usage and various disadvantages:

- **The loss of time:** You know how inconvenient and time-consuming it is to look for medical notes in a pile of patient records. The time you spent doing administrative work could be spent seeing patients.

- **The risk of data damage:** Paper records are unsecured. What do you do if there's a fire that wipes out all your physical files? Or a moth infestation that, quite literally, eats up all your data? Physical files, once lost, are impossible to recover.

- **Complicated access:** When you need to transfer some necessary notes about a patient's health or his/her records, what do you usually do? Probably, you're looking for the paper records in archives and then either mail, fax or scan them, wasting a lot of essential time.

- **Not scalable:** Paper records must be stored in temperature-controlled special archives. That means additional space in your clinic. With EHR, all you need is a computer.

Main Features of EHR Systems

EHR is widely used in most countries and clinics due to its relevant features, which make patient care robust and high-quality. EHR platform sets up a patient portal for consumers to allow secure data sharing and access to necessary information from other healthcare institutions. So, which features does EHR have?

Electronic Health Record system:

- provides patients and physicians with safety, effectiveness, communication, education, timeliness, and equity;

- contains information about patient's medical history, diagnosis, medications, treatment plans, immunization dates, allergic reactions, radiology images, and diagnostic, laboratory and test results;

- allows access to a variety of sophisticated tools including e-prescribing, speech recognition or dictation, advanced reporting and more;

- gives an ability to share a patient's medical data smoothly between practitioners, clinicians, labs, hospitals and pharmacies that are authorized to access it;

- saves billing time and creates a more accurate billing system.

Top 5 EHRs

When EHR systems are integrated with practice management solutions, these systems become the lifeblood of the medicare, that is why more and more EHR vendors appear in the world market to be involved in different clinical practices.

Here are top US-based EHR software vendors in 2019 by market share:

- **Epic** is an ambulatory EHR software rated #1 by KLAS Enterprises. It serves medical practices, hospitals, academic facilities, academic centres, health providers, groups and children's organizations. Available on cloud, SaaS, web and mobile platforms. It also provides appointment scheduling, compliance tracking, voice recognition, and self-service portal. The ease of use is rated about 3.9/5.

- **Cerner** is the second-largest health software vendor. It produces clinical applications for small and medium-size organizations such as AMC, home care, clinician offices and Private Ambulatory Care Office. Available on Windows and macOS. It also provides a clinical database, order completion, and clinical documentation management. The ease of use is rated about 3.5/5.

- **MEDITECH**, an EHR software rated #3, targets small or medium-sized hospitals (under 100 beds up to 200 beds). Available on Windows. It allows users to document or chart a patient's data and to set appointments or ask questions online. It handles revenue cycle management as well as business analytics. The ease of use is rated about 3/5.

- **CPSI** is a vendor of EHR solutions for rural and community hospitals, and post-acute care facilities. Available on cloud, SaaS, web, macOS and Windows platforms. It includes three point-of-care medication management modules: e-prescribing, medication reconciliation, and

medication administration verification. The ease of use is rated about 2.5/5.

- **Allscripts** is an ARRA-certified EHR designed to meet the needs of small and middle-sized physician practices. It allows e-prescribing, personalizing EHR by determining which features to include, automating processes like billing and patient medicine intake, and accessing the clinical database. The ease of use is rated about 3.1/5.
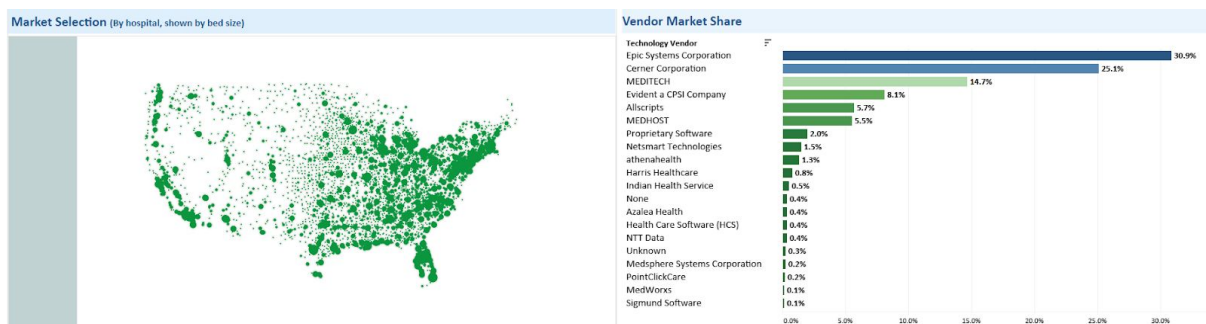
Main EHR Standards

EHRs cannot be implemented if they don't meet specific security standards and criteria.

EHR standards allow for reduced medical mistakes and costs, increased revenue, improved efficiency, and higher levels of physician services.

Such regulations are necessary if you are about to implement an EHR solution for your medical practice. If you have been unaware of their need for compliance, here are some fundamental standards to follow while involving EHRs:

- **HIPAA** requires providers and business associates to ensure the privacy and security of protected personal health information to follow Privacy Policy rules.

- **Hitech** act also provides regulations meant to expand data breach notifications and to ensure the protection of electronically protected health information.

- **DICOM** is an international standard for representing and forwarding healthcare image-based information.

- **HL7** is a standard of messaging between hospital and physician record systems.

- **ISO** provides international technical specifications for EHRs and describes their architecture.
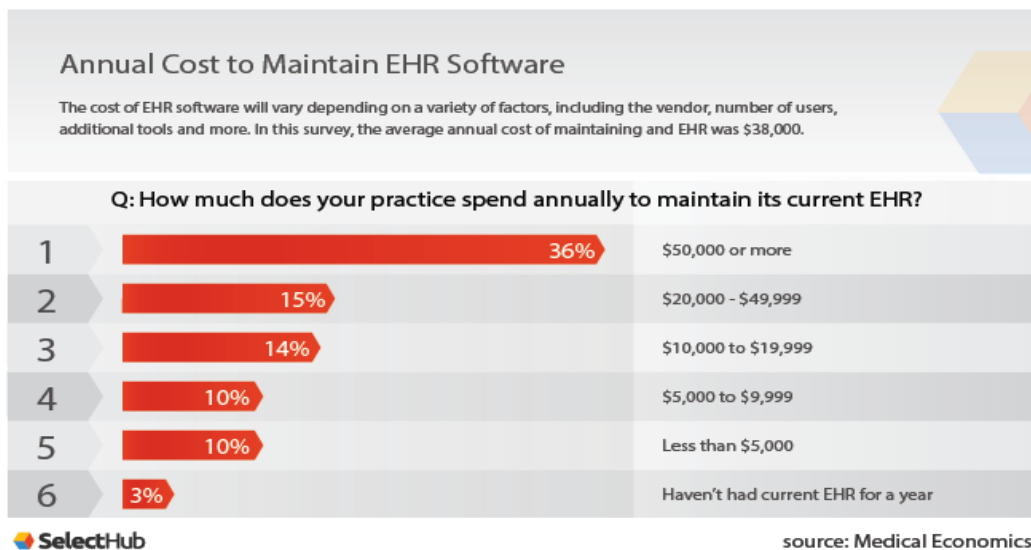
The Cost of EHR Implementation

Having a patient's data stored electronically creates a smooth transfer of information among providers. However, the cost for implementation and utilization of such medical systems must be carefully considered.

As for the ready-made EHRs, the pricing ranges from $5,000 to $70,000 per provider. A typical multi-physician practice would spend about $162,000 to implement an EHR, with $85,500 for first-year maintenance costs. Expenses also depend on whether you choose on-site (yearly cost is $4,000 on average) or web-based (yearly cost is $8,000 on average) EHR deployment.

However, custom EHR software development is much better because developers create it to meet your clinic's requirements. As for UI/UX design, it will cost about $4,000 — $5,000 for web and $5,000 — $7,500 for one mobile platform. The average cost of the implementation will be $36,700 — $59,000 for web, and $25,900 — $65,800 for one mobile platform.

But you should understand that it is impossible to define an accurate custom EHR development cost because all expenses depend on specific demands and the number of platforms this software will be installed on. And if you know the exact cost of EHR software implementation you want, please, contact us. We will be happy to realize your ideas.

Annual Cost to Maintain EHR Software

The cost of EHR software will vary depending on a variety of factors, including the vendor, number of users, additional tools and more. In this survey, the average annual cost of maintaining and EHR was $38,000.

Q: How much does your practice spend annually to maintain its current EHR?

1	36%	$50,000 or more
2	15%	$20,000 - $49,999
3	14%	$10,000 to $19,999
4	10%	$5,000 to $9,999
5	10%	Less than $5,000
6	3%	Haven't had current EHR for a year

SelectHub

source: Medical Economics

The Benefits of Electronic Health Records

Actually, EHR is improved paper records turned into online data, but with a greater variety of features. Its implementation has more advantages than rifling through dusty archives. They could significantly improve health outcomes and help maintain better patient care, communication, and services.

Patient's care benefits:

- Every function is at hand: clinical alerts, reminders, appointment scheduling, messaging and clinical information.

- Quick access to data, which reduces delays in treatment: EHR allows access to information at any time and anywhere.

- Chronic disease management: EHR allows for constant monitoring of symptoms, drug scheduling, and patient education.

Financial benefits:

- Reduced storage and paper consumption costs: No need to spend money on document storage and paper, which is also eco-friendly.

- Billing accuracy: EHRs provide flexible and convenient online billing and payment options.

- Better capture of charges: Reduction in charge lag days and vendor/insurance denials associated with late filing.

Staff benefits:

- Improved intra-office communication: EHRs provide integrated messaging systems being installed on mobile devices.

- Simplification of tasks of data-search: clinicians can find necessary notes by entering a few keywords.

- The increase of work efficiency: EHRs allow scheduling, automated coding, and managing claims which save time and effort.

Challenges in EHR Usage

Despite the substantial benefits, which make EHRs value as high as possible, the following system also has some drawbacks you can face while using or implementing it.

- **Medical data breach:** EHR system stores information on servers that can be hacked. If privacy is not well-secured, your clinic will suffer from patients' mistrust leading to the loss of potential income and judicial proceeding against the medical organization.

  Solution: Limit access to the system for unauthorized users and provide staff members with a secure password and a personal ID to prevent terrible consequences.

- **Data overload:** Transfer of the paper-based healthcare records to the EHR software, unfortunately, makes medical notes duplicated, mixed up, and lost. Patient data secured by Privacy Policy has a risk of loss. Such horrendous outcomes range up to the legal sanctions.

  Solution: Arrange data transfer carefully, determine the number of documents be transferred in a particular time to avoid mixing them up and information loss.

- **Not user-friendly EHR:** The staff may be unfamiliar with the new EHR software if it contains lots of redundant functions and complicated user interface.

  Solution: Even though specialized training requires additional time and expenses, they help clinicians to get acquainted with the new system and be ready to use it.

EHR Trends in 2019

The modern healthcare industry is currently developing, and it is crucial to follow the latest trends and tendencies to provide comprehensive medical care and meet customer's requirements.

- **Cloud-based EHRs** (e.g. Amazing Charts, athenahealth, Practice Fusion)

Unlike standalone EHR systems, cloud EHR doesn't require complicated installation and high maintenance costs.

Such institutions as OrthoAtlanta, DiToppa Medical Center and New England Quality Care Alliance have chosen the cloud-based solutions and are completely satisfied with them.

- **EHR mobile apps** (e.g. drchrono, Meditab, Medlium)

Imagine being unable to get quick access to a patient record if there is no computer nearby, but the time flows.

Usually, clinicians spend a lot of time in front of the computer, being unable to make e-notes anywhere they need. EHR mobile apps give physicians and patients an opportunity to manage data, provide medical care and communicate while using portable devices in any place.

Direct Urgent Cares and The Foot and Ankle are successful users of drchrono solution. They have reinforced their positions as reputable medical institutions by establishing portable clinic systems with a full set of EHR features.

- **Patient portals** (e.g. RelayHealth, CPSI, Allscripts)

Without an opportunity to get quick access to information about test results, drug prescriptions and personal records, patients won't be able to control their health and care or communicate with the physicians.

Portal adoption allows patients to get free access to their health information, fill out paperwork at home, conveniently arrange their appointments with the doctor and view consolidated lab results from different medical specialists.

Such institutions as Arbor Family Medicine, Kaleida Health and Specialty Eye Institute experienced a full conveniency while adopting patient portals provided by CPSI or Allscripts solutions, which meet their patient's needs and demands.

Summary

To sum up, a significant number of hospital owners can now hardly imagine themselves without EHR systems implemented instead of dusty paper-based records.

These technologies enhance the overall working of medical practices, creating better experiences for physicians and their patients. However, the specific requirements and budget of your medical practice would play a central role in adopting these technologies.