

Electronic health record systems as tools for physicians in 2017

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Welcome to this survey on electronic health record (EHR) systems.

Please respond to the questions and statements given on the form with regard to your current main employment. If you are not employed now, please answer with regard to your latest employment.

Try to answer all questions on the form based on your experiences. If any question feels too difficult to answer, or you have no basis for answering it, please leave it blank and move on to the following question.

You can proceed in the survey without answering every question (with the exception of those marked with an asterisk).

Please submit the form by pressing the Send button on the last page.

Gender

Male
Female

Year of birth

Please select

Basic degree in medicine: year of completion

Please select

*

Stage of specialization

Not specialized
In specialist training
Specialized

Please state your field of specialization (also if you are currently in specialist training). If you are specialized in several fields, please give the latest one.

Please select [list]

*

Main employment sector

Municipality
State
Private
University
I am not employed

If you are not currently employed, please answer the questions on your workplace on the basis of your latest workplace.

If you have a secondary post at a hospital or health centre, please answer the following questions from that point of view.

Place of main employment

University central hospital
Central hospital
Other public hospital (regional hospital, town hospital)
Health centre, welfare centre or station
Private medical station, centre or hospital
State office, institution or hospital
Other, please specify

*

Title in main employment

Medical director, director, chief physician or equivalent
Head of department, deputy chief physician
Specialist, senior ward physician
Physician in specialist training, hospital physician, physician in specific training in general medical practice
Health centre physician
Occupational health physician
Occupational health physician in charge
Professor
Clinical lecturer, senior assistant
Researcher, assistant
Private practitioner
Other medical profession
Other than medical profession

Location of your main employment, hospital district

Please select [list]

Number of inhabitants in the municipality where you are employed

Less than 20,000
20,000–100,000
More than 100,000

The following questions are designed to assess electronic health record (EHR) systems in the working environment you select.

* **When doing clinical work do you MAINLY work**

- On an in-patient ward
- In outpatient care, in an outpatient clinic or doctor's practice
- In emergency department
- In emergency medical service
- In administration
- In diagnostic medical specialties – e.g. radiology, laboratory medicine, pathology
- In the operating theatre
- In an intensive care or monitoring room
- In the delivery room

Does your main employment involve teleconsultation with patients (telemedicine by phone, chat, video contact, other electronic contact)?

- A lot
- A little
- Not at all

How many different clinical information systems do you log into daily in your clinical work?

- 0
- 1
- 2
- 3
- 4
- 5 or more
- I do no clinical work

On a scale from 1 to 5, how experienced do you consider yourself as a user of EHR systems? (1 = Beginner, 5 = Highly experienced)

- 1 : Beginner
- 2
- 3
- 4
- 5 : Highly experienced

*

Which EHR system do you MAINLY use in your employment?

Abilita
Acute
DynamicHealth (Doctorex)
Efficca
Lifecare
ESKO-Oberon
Graafinen Finstar GFS
Mediatri
Pegasos
Radiological PACS / RIS
Softmedic
Uranus (Miranda + Oberon)
Other, please specify

For how long have you used the EHR system?

For less than 6 months
6–12 months
1–3 years
3–6 years
More than 6 years

To what extent do you use the following ways of obtaining patient data from ANOTHER organization?

Paper, fax
Regional health information exchange system (Altti/Navitas, Alue-Efficca, Kunta-Esko, AluePegasos, AlueMediatri)
Kanta

Response options: Daily
 Weekly
 Less frequently
 Not at all

Usability and functionality of EHR systems

Use the following statements to assess the usability and functionality of the EHR system from a physician's point of view.

(N.B.! The EHR system and your place of employment were taken from your previous answers.)

The systems is stable in terms of technical functionality (does not crash, no downtime).

The system responds quickly to inputs.

Information entered/documentated occasionally disappears from the information system.

Faulty system function has caused or has nearly caused a serious adverse event for the patient.

Response options:

- Fully agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Fully disagree

If you have during the past 12 months noticed that faulty functioning of the system has caused or been close to causing a severe adverse event for a patient, what kind of faulty functioning was this? Please select the 3 most common events.

The system froze/crashed.

The system presented the data for the wrong patient.

Choosing the wrong medication or dosage is easy in the system.

The system did not warn about allergies, drug interactions, etc.

The system lacked (important) patient information.

Information had been saved incorrectly in the system.

Other, please specify

Use the following statements to assess the usability of the EHR system from a physician's point of view.

The arrangement of fields and functions is logical on computer screen.

The systems keep me clearly informed about what it is doing (for example saving data).

Terminology on the screen is clear and understandable (for example titles and labels).

Routine tasks can be performed in a straight forward manner without the need for extra steps using the system.

In my view, the system frequently behaves in unexpected or strange ways.

If I have problems with the system I can easily get help.

It is easy to correct mistakes (such as entry errors, ending up in the wrong screen, changing incorrect selections, etc.)

Response options: Fully agree
 Somewhat agree
 Neither agree nor disagree
 Somewhat disagree
 Fully disagree

Use the following statements to assess how the EHR systems you use support a physician's work.

Learning to use the electronic health record system does not require a lot of training.
It is easy to obtain necessary patient information using the EHR system.
Entering and documenting patient data is quick, easy and smooth.
The reminders, alerts and warnings provided by the system are useful and are adequate.
Patient data (also from other organizations) are comprehensive, up-to-date and reliable.
Diagnostic imaging results are easily available on a regional level.
Laboratory results are easily available and are logically presented on a regional level.
Information on medications ordered in other organizations is easily available.
Obtaining patient information from another organization often takes too much time.

Response options: Fully agree
 Somewhat agree
 Neither agree nor disagree
 Somewhat disagree
 Fully disagree

Use the following statements to assess how the EHR systems you use support a physician's work.

EHR systems help in preventing errors and mistakes associated with medications.
EHR systems help to avoid duplicate tests and examinations.
Use of EHR systems frequently takes my attention away from the patient.
EHR systems help to ensure continuity of care.
EHR systems help to improve quality of care.
EHR systems support compliance and adherence with the treatment recommendations.

Response options: Fully agree
 Somewhat agree

Neither agree nor disagree
Somewhat disagree
Fully disagree

Use the following statements to assess how the EHR systems you use support a physician's work.

(N.B.! The following features are not available in all EHR systems. If so, please select 'Feature not available'.)

The EHR system generates a summary view (e.g. on a timeline) that helps to develop an overall picture of the patients health status.

The information on the nursing record is in easily readable format.

The patient's current medication list is presented in a clear format.

The system monitors and notifies when the orders given to nurses have been completed.

Documentation of patient information for statistical purposes takes too much time.

Measurement results provided electronically by the patient (e.g. via patient portal) help to improve the quality of care.

The EHR system provides me with information about the need for and effectiveness of treatment of my patients.

Response options: Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
Feature not available

How well do you consider that EHR systems support co-operation and communication between various parties?

Between physicians in your own organization

Between physicians working in different organizations.

Between physicians and nurses

Between physicians and patients

Response options: Very well
Fairly well
Neither well nor poorly
Rather poorly
Very poorly

Problems and needs for developing EHR systems

Which of the problems observed with current EHR systems complicate a physician's work most? Please select NO MORE THAN FIVE (5) needs for development that you consider the most important.

The same things need to be entered in many places

The user interface view is always the same regardless of the system user's tasks or needs

Slowness of the systems and unexpected interruptions in use

Illogicality (paths need to be learned by heart)

Poor support for electronic decision making (notes, reminders and links to clinical guidelines)

The systems do not help to prevent errors

Poor usability of regional health information exchange system (i.e. the way of seeking information on a patient treated in another organization)

Awkwardness of seeking information in the Kanta system

Acknowledgment of information received in results mail / memo and reacting to it is arduous

Lack or poor quality of summary view (e.g. fever curve or treatment table)

Structured entering of patient care makes it difficult to get a holistic picture of a patient

Poor usability of electronic prescription (e-prescription)

Electronic communication with patient impossible or arduous

Forms are not intelligent or self-completing (e.g. referrals, certificates)

Single logging in / desktop integration not possible /

Constantly changing passwords

Something apart from above, please specify

Features working well in EHR systems

What works well in current EHR systems? Please choose as many features as you like.

Availability of patient information regardless of the physician's location

Electronic prescription (e-prescription)

Reminders of laboratory tests needed, for example saving of phrases and/or favorite prescriptions/orders

Logical keyboard shortcuts (e.g. Ctrl+P for printing)

Digital dictation

Comprehensive summary view

Possibility of editing the view according to one's own needs

Easy follow-up of costs and invoicing

Results mail / memo (for laboratory results, for example)

Unit-specific (e.g. in-patient ward) results mail / memo, where received results can be acknowledged as having been seen
Possibility of collecting texts from various specialties to a chronological patient record
Checking of drug interactions
Management of work, office or appointment lists
The software provides data to support management (e.g. reports, summaries)
Something apart from above, please specify

What kind of experiences have you had about giving feedback on the EHR systems you use and about development?

Please assess the following statements based on your experiences.

I know to whom and how I can send feedback on the system, if I so wish
The system supplier is interested in feedback from users.
The system supplier implements suggested corrections and amendments as wished.
Suggestions for corrections and amendments are implemented sufficiently quickly.

Response options:

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree

Have you participated in developing EHR systems?

A lot
A little
Not at all

*

On a scale of 4 to 10 (with 4 being the lowest score and 10 being the highest score) how would you rate the EHR you mainly use?

Response options: 10
9
8
7
6
5
4
I am not able to give a grade or I do not wish to answer

Here you can write other comments or feedback on EHR systems.

EHR systems as support for management

How, in all, do the EHR systems used in an organization work as a management tool?

INSTRUCTIONS FOR RESPONDING: If you do NOT have administrative/management responsibilities, please do not grade the statements below; move to the following page.

I have to collect information needed for management from several EHR systems.

I can use EHR systems to guide daily activity.

EHR systems facilitate measurement and monitoring of functional quality.

Available data support research, innovation and business activities.

EHR systems help me to monitor the achieving of the targets set by my unit (e.g. numbers of patients, periods of treatment, types of operations).

Follow-up data provided by the systems is reliable and faultless.

EHR systems have helped to improve the efficacy of my unit in the last few years.

I can use EHR systems to follow the use of personnel, equipment and room resources.

I use some systems facilitating follow-up of activity every day.

It is easy to perform searches with the systems used for following up activity.

Response options:

Fully agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Fully disagree

Feature not available

EHR systems in intensive care units

In this study, we also wish to find out about physicians' experiences of EHR systems used in intensive care units. The questions are for physicians who use such systems daily or weekly.

How often do you use an intensive care unit EHR system?

Daily
Weekly
Monthly
Less frequently
Not at all

What clinical intensive care unit EHR system do you mainly use?

Centricity Clinisoft (GE)
Pcis Caresuite
Philips
Other, please specify

Please use the following statements to assess the usability of the intensive care unit EHR system that you use.

Use of parallel systems in my unit is fluent.

The intensive care unit EHR system facilitates teleconsultation between hospitals.

The intensive care unit EHR facilitates consultation between specialties within the hospital.

The intensive care unit EHR system is sufficiently modifiable for the needs of my unit.

The intensive care unit EHR system automatically obtains the patient data that I need from other systems or devices.

Reminders, notes and warnings provided by the intensive care EHR system are useful, and occur suitably frequently.

It is easy to obtain the required patient data from the intensive care unit EHR system.

Response options:

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
Feature not available

The intensive care unit EHR system crashes or cannot be used

Never
Once a month or less often
Once a week
Daily
Don't know

Please use the following statements to assess the intensive care unit EHR system.

The arrangement of fields and functions is logical on computer screen.

Routine tasks can be performed in a straight forward manner without the need for extra steps using the system.

It is easy to correct mistakes (such as entry errors, ending up in the wrong screen, changing incorrect selections, etc.)

Learning to use the electronic health record system does not require a lot of training.

The system automatically presents patient-/diagnosis-specific guidelines and protocols.

Faulty system function has caused or has nearly caused a serious adverse event for the patient.

Response options:

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
Feature not available

Have you used an intensive care unit EHR system for research or for developing work activities?

Yes
No

*

What school grade would you give for the intensive care unit EHR system that you use?

Response options: 10
9
8
7
6
5

I am not able to give a grade or I don't wish to do so

Open feedback on the usability and development of the intensive care unit EHR system.

EHR systems and wellbeing at work

In this survey we wish to find out any connection between EHR systems and your wellbeing at work.

How often has each of the issues mentioned below clearly disturbed, worried or burdened you at work during the past 6 months?

Constant rush and pressure due to uncompleted work.

Not enough time to perform work properly.

Changing EHR systems.

Awkward, poorly functioning information technical equipment/software.

Response options: Very often or constantly
 Quite often
 Every once in a while
 Quite rarely
 Very rarely or never

The following questions concern your wellbeing within the last few weeks.

Have you often remained awake lately because of your worries?

Have you felt unhappy or depressed lately?

Have you felt constantly overburdened lately?

Have you felt lately that you could not cope with difficulties?

Response options: Not at all
 No more than usually
 Slightly more than usually
 A lot more than usually

Stress means a situation where a person feels tense, restless, nervous or anxious or finds it hard to sleep because they constantly worry about things.

Do you feel such stress now?

Not at all

Just a little

To some extent

Quite a lot

Very much

Any message to the research group and your feedback on this survey.