A 2023 survey on information systems for registered nurses Electronic health records and client information systems as registered nurses' tools

Obligatory questions marked with an asterix (*)

Background questions

1. I use health care information systems*
- for my work with patients or clients
- for administrative work
- for both my work with patients or clients and administrative work
- I don't use information systems at all

2. Gender*
- Male
- Female
- Other
- I don't wish to say

3. Year of birth*
- 1958-2005

4. Highest degree that you have completed*
- Nursing, a postsecondary degree [the prior degree before the education reform in 1996]
- Bachelor of Health Care (Nursing)
- University of applied sciences master's degree
- A university degree (Bachelor's Degree)
- A university degree (Master's Degree)
- A university degree (Licentiate or Doctor)

5. Healthcare professional*
- Registered nurse

- Public health nurse
- Midwife
- Paramedic
- Other

6. **Year of completion of the degree in nursing***
- 1970-2023

7. **Do you work as a supervisor?***
- No
- Yes, in lower management
- Yes, in middle management
- Yes, in upper management

Due to the social welfare and health care reform, we will next ask several questions about your workplace in order to ensure reliable reporting of the results. If you work in several workplaces, answer the survey based on the workplace where you work the most hours.

8. **Do you work in...***
- social services
- health care
- Neither of these
- I cannot say

9. **Does your unit offer...***
   [Survey rule: The question appears to the respondent if they answers question 8: "health care"]
- primary health care services
- specialised health care services
- Neither of these
- I cannot say

10. **Which sector pays your salary?***
- Public sector

- Private sector
- Third sector
- I cannot say

11. Where of the following options do you work at?*

- Public hospital
- Public health and social services centre, health centre, wellbeing station
- Private sector
- Social welfare
- Other

12. Where do you work more spesifically?*
Hospital

- Inpatient ward (e.g. internal diseases)
- Emergency clinic
- Intensive care or monitoring unit
- Operating room
- Delivery room
- Outpatient clinic
- Other hospital unit
Public health and social services centre/ health centre
- Reception
- Inpatient ward
- Emergency clinic
- Child health clinic
- Other social and health centre unit
Other environments
- Private medical clinic or centre
- Occupational health
- Emergency care or ambulance
- Community nursing
- Home hospital

- Sheltered housing, supported housing or housing services (e.g. for older people, persons with intellectual disabilities or mental health and substance abuse rehabilitation)
- Enhanced sheltered housing (with 24/7 assistance)
- Institutional care (e.g. for persons with intellectual disabilities, child welfare clients or persons with substance abuse problems)
- Research unit (e.g. laboratory, imaging services)
- School or student health care
- Other

13. In which geographical area is your workplace located?* Select the area where the unit where you primarily work is located.

- East Uusimaa wellbeing services county
- Central Uusimaa wellbeing services county
- West Uusimaa wellbeing services county
- Vantaa and Kerava wellbeing services county
- Southwest Finland wellbeing services county
- Satakunta wellbeing services county
- Kanta-Häme wellbeing services county
- Pirkanmaa wellbeing services county
- Päijät-Häme wellbeing services county
- Kymenlaakso wellbeing services county
- South Karelia wellbeing services county
- South Savo wellbeing services county
- North Savo wellbeing services county
- North Karelia wellbeing services county
- Central Finland wellbeing services county
- South Ostrobothnia wellbeing services county
- Ostrobothnia wellbeing services county
- Central Ostrobothnia wellbeing services county
- North Ostrobothnia wellbeing services county

- Kainuu wellbeing services county
- Lapland wellbeing services county
- City of Helsinki
- Åland

Use of electronic health record/ client information systems at work

14. How many information systems do you log in to daily when working with clients/ patients? (This refers to separate logins using a username or an ID card to systems, which are used to record client or patient data):*
- 0
- 1
- 2
- 3
- 4
- 5 or more
- I do not work with clients/patients

15. Has a new electronic health record/ client information system been implemented in your unit?
- Yes, within the past 6 months
- Yes, within the past 12 months
- No, but a new system will be implemented within the next 12 months
- Not within the last 12 months

16. How experienced do you consider yourself as a user of electronic health record/ client information system?*
- Beginner (1)
- 2
- 3
- 4
- Highly experienced (5)

17. What is the electronic health record/ client information system you mainly use in your work?*

- Abilita
- Acute
- DomaCare
- DynamicHealth
- Effica healthcare
- Effica social welfare
- Epic (Apotti)
- Esko
- Hilkka
- Lifecare
- Mediatri
- Merlot-Medi
- Nappula
- OMNI360
- Pegasos
- Safir
- Siro
- Uranus
- Other, please specify

18. On a scale of 4 to 10 how would you rate the electronic health record/ client information system [answer to question 17] that you mainly use (computer version)?*

- 10 (Excellent)
- 9 (Very good)
- 8 (Good)
- 7 (Satisfactory)
- 6 (Fair)
- 5 (Passable)
- 4 (Fail)
- I am not able to give a grade, or I don't wish to do so

19. For how long have you used the [answer to question 17] system?*

- Less than six months
- Six months – less than one year
- One year – less than three years
- Three years – six years
- More than six years

20. Do you use the [answer to question 17] electronic health record/ client information system also on mobile devices (such as a smartphone or a tablet)?*

- Yes
- No
- The information system cannot be used on a mobile device

Use of electronic health records and client information systems on a mobile device
[Survey rule: The section appears to the respondent if they answers question 20: "Yes"]

21. On a scale of 4 to 10 how would you rate the electronic health record/ client information system [answer to question 17] that you mainly use (mobile version)?* [Survey rule: The section appears to the respondent if they answers question 20: "Yes"]

- 10 (Excellent)
- 9 (Very good)
- 8 (Good)
- 7 (Satisfactory)
- 6 (Fair)
- 5 (Passable)
- 4 (Fail)
- I am not able to give a grade, or I don't wish to do so

22. Use the following statements to assess recording information in the [answer to question 17] electronic health record/ client information system on a mobile device. [Survey rule: The section appears to the respondent if they answers question 20: "Yes"]

	Fully agree	Some what agree	Neither agree nor disa-gree	Some-what disagree	Fully disa-gree
Recording information on a mobile device is smooth					
Recording information on a mobile device saves my working time					
Recording information on a mobile device reduces the need to remember things					
I can use my mobile device to record everything I need					
I have received sufficient training in recording information on a mobile device					

Use of electronic health records and client information systems on a computer

[Survey rule: The section appears to the respondent if they answers question 20: "Yes"]

In the following section, we ask you to evaluate using the electronic health record/ client information system on a computer.

Information systems supporting work

23. Use the following statements to assess the functionality of the electronic health record/ client information system [answer to question 17].

	Fully agree	Some what agree	Neither agree nor disa- gree	Some- what disagree	Fully disa- gree
The system is stable in terms of technical functionality (does not crash, no downtime)					
The system responds quickly to inputs					
Faulty system function has caused a serious adverse event for a patient					
Faulty system function has nearly caused a serious adverse					

event for a patient

24. Use the following statements to assess the usability of the electronic health record/ client information system [answer to question 17].

	Fully agree	Some-what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
The arrangement of fields and functions is logical on the screen					
The terms of the electronic health record/ client information system (e.g., names of functions and titles) are understandable					
Routine tasks can be performed in a straightforward manner and without extra selections					
The information system instructs its' user to learn how to use the system					
The user can adjust the information system					

25. Use the following statements to assess how the information systems you use support currying out your duties.

	Fully agree	Some-what agree	Neither agree nor dis-agree	Some-what dis-agree	Fully disa-gree
Learning to use the electronic health record/ client information system does not require a lot of training					
It is easy to obtain necessary patient information using the information system					
Getting patient data from another organization often takes too much time					
Measurement results and other health data provided electronically by the patient can be easily utilized in patient care					
The notifications provided by the system are useful					
The number of notifications from information systems is appropriate					

26. Use the following statements to assess how the [answer to question 17] electronic health record/ client information system supports the recording of nursing and the utilisation of recorded information.

	Fully agree	Some what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
Generally, the information system supports nursing documentation					
Information documented into the nursing record is in an easily readable format					
It is easy to retrieve the nursing record data					
The use of standardized documentation makes it easier to utilize patient/client data					
The electronic health record/ client information system supports compiling a nursing discharge summary					
Documentation of client/ patient data for statistical and reporting purposes is fast					
The patient's current medication list is presented in a clear format					

	Fully agree	Some what agree	Neither agree nor disagree	Some- what disagree	Fully disa- gree
The patient's risk information (e.g. drug hypersensitivity) is presented in a clear format					
The system supports reacting to and finding doctor's orders					
The electronic health record/ client information system supports the recording of the planning of multidisciplinary care					
The electronic health record/ client information system supports the recording of the implementation of multidisciplinary care					

27. Use the following statements to assess how the information is used in your unit.

	Fully agree	Some what agree	Neither agree nor disagree	Some- what disagree	Fully disa- gree
The quality of nursing documentation is assessed					
The results of the assessment of nursing					

	Fully agree	Some what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
documentation are reviewed in my unit					
Nursing records are used in knowledge-based management, e.g. developing care					

28. **During the last week, have you recorded the same client/patient information more than once for the same care event? You may choose one or more options.**
- No, a single recording is enough
- Yes, I record in two different electronic health record/ client information systems
- Yes, I first record on paper and then in the information system
- Yes, to make sure, I record in several different places in the information system
- Yes, I record in several different places in the information system for some other reason, specify if you wish: _____

29. **In the last 2 months, how often have you encountered the following phenomena related to patient safety?**

	Daily	Weekly	Monthly	Less often than monthly	Not at all
Information about the patient/client has been recorded for the wrong person					

	Daily	Weekly	Monthly	Less often than monthly	Not at all
Information about the patient/client has been recorded in the wrong place					
Information about the patient/client is incorrect (contains factual errors)					
Information about the patient/client is incomplete (contains unclear information or does not contain all necessary information)					

Competence, training and orientation

30. How well do you feel you master the following skills required by information systems? If you feel that you need more training in a skill, then also tick the box 'I need more training'.

Basic IT skills (such as email, word processor, information retrieval)
How well do you feel you master the following skills required by information systems?
- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training
- I need more training

Documentation of patient care according to the nursing process
How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Documentations to an electronic health record/ client information system
How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Documentation of nursing diagnosis (FiCND)
How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Documentation of goals of planned care

How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Documentation of planned nursing interventions (FiCNI)

How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Documentation of nursing interventions (FiCNI)

How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Documentation of the assessment of patient outcomes (FiCNO)
How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Documentation of nursing care intensity
How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Compiling of a nursing discharge summary
How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Use of clinical guidelines and other evidence-based information in practice

How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Supporting a client in utilizing the possibilities of electronic services for self-care

How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Supporting a client in choosing the most appropriate services

How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Working in a digital healthcare environment
How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Development of e-health services in multiprofessional collaboration with patients and other stakeholders
How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Complying with data protection and data security principles in daily work
How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

Applying the nurses' code of ethics while acting in electronic health services

How well do you feel you master the following skills required by information systems?

- Excellently
- Well
- Satisfactorily
- Passably
- My organization does not require this skill

The need for training

- I need more training

31. My unit has…

	Yes	No	I don't know
an orientation programme for new employees, which includes guidance on the use of the electronic health record/ client information system			
a designated person who supports others in the use of the electronic health record/ client information system			
a mentoring programme in the use of the electronic health record/ client information system			

32. Assess the training or orientation related to the use of information systems.

	Fully agree	Somewhat agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
As a new employee, I received enough in-house training in information system use					

	Fully agree	Some what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
Employer offers continuous training in electronic health record/ client information system use					
Support received from my colleagues increases my competence as a user of the electronic health record/ client information system					

33. I have last participated in training provided by the organisation, related to the use of the electronic health record/ client information system…

- Less than six months
- Six months – less than one year
- One year – less than three years
- Three years – six years
- More than six years ago

Effects of information systems

34. Use the following statements to assess how the information systems you use support carrying out your duties.

	Fully agree	Some what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
Information systems help in preventing errors and					

	Fully agree	Some what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
mistakes associated with medications					
Information systems help to avoid duplicate tests and examinations					
Information systems help to ensure continuity of care					
The electronic health record/ client information system generates a summary view that helps to form an overall picture of the patient's health status					
Information systems help to improve quality of care					
It is difficult to see the essential information from a very large amount of data.					
Use of information systems disrupts the nurse-patient relationship					
The information system takes too much time out of the nurse's time with clients/patients					
Use of information system speeds up decision-making in patient care					

Development of information systems

35. Have you participated in information systems' development work?*

- Yes, some of my working time has been allocated for such development work
- Yes, in addition to my work
- No

36. What kind of experiences have you had about providing feedback on the information systems you use and about development? Please assess the following statements based on your experiences.

	Fully agree	Some what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
I know how and to whom I can send feedback about the system if I wish to do so					
The system vendor is interested in end users' feedback about the system					
The system vendor implements corrections and change requests according to the suggestions of the end users					
Corrections and change requests are implemented within a reasonable time frame					

Flow of information

37. To what extent do you use the following ways of obtaining client-/ patient data from another organization?

	Daily	Weekly	Monthly	Less frequently	Not at all
Telephone					
Paper					
Fax					
Regional health information exchange system (Altti/Navitas, Alue-Effica, Apotti)					
Kanta					

38. How well do you consider that information systems support collaboration and information exchange between various parties?

	Very well	Fairly well	Neither well nor poorly	Rather poorly	Very poorly
Between nurses in your own organization					
Between nurses working in different organizations					
Between nurses and physicians					
Between nurses and clients/patients					

Information systems as a management tool
[Survey rule: The section appears to the respondent if they answers question 7 Do you work as a supervisor?* "Yes, in lower management" / "Yes, in middle management" / "Yes, in upper management"]

39. How, all in all, do the information systems used in the organization work as a management tool?
[Survey rule: The question appears to the respondent if they answers question 7 Do you work as a supervisor?* "Yes, in lower management" / "Yes, in middle management" / "Yes, in upper management"]

	Fully agree	Some what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
I have to collect information needed for management from several information systems					
I can use information systems to guide daily activity					
Information systems facilitate the measurement and monitoring of the quality of operations					
I have to order most of the reports I need					
Information systems help me to monitor the achieving of the targets set by my unit (e.g., numbers of patients, periods of					

	Fully agree	Some what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree
treatment, types of operations)					
Follow-up data provided by the systems is reliable					
Information systems have helped to improve the efficacy of my unit in the last few years					
I can use information systems to follow the use of human resources					
I can use information systems to follow the use of physical resources e.g., equipment.					
I can use information systems to follow the use of facilities e.g., number of beds					
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					

Digitalisation and well-being at work

40. The following questions relate to your well-being during the past few weeks.

	Much more than usual	Somewhat more than usual	No more than usual	Not at all
Have you recently lost much sleep over worry?				
Have you recently been feeling unhappy and depressed?				
Have you recently felt like you are constantly overstressed?				
Have you recently felt that you can't deal with the difficulties that you face?				

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

	Never	Very rarely	Quite rarely	Quite often	Very often	Constantly
Constant rush and pressure due to uncompleted work						
Not enough time to perform work properly						
Changing information systems						

	Never	Very rarely	Quite rarely	Quite often	Very often	Constantly
Awkward, poorly functioning IT equipment/software						

42. In the last 6 months, I've been planning to change...

	Fully agree	Some what agree	Neither agree nor disagree	Some- what disagree	Fully disa- gree
my workplace/employer					
my profession					

Digital work

43. How do you feel about the following claims about Kanta services? Assess the claims from the perspective of your own work.

	Fully agree	Some- what agree	Neither agree nor disagree	Some- what disagree	Fully disa- gree	Not applicable to my work
Kanta services are easy to open through the electronic health record/ client information system I use ([answer to question 17])						

	Fully agree	Some-what agree	Neither agree nor disagree	Some-what disagree	Fully disa-gree	Not applicable to my work
The client/patient information I need is available through the Kanta service						
I can easily find the client/patient information I am looking for in the Kanta service						
In Kanta services, summaries of key health information help to create an overall picture of the patient						
The Kanta service package is easy to use						

44. Does your work include guiding clients/patients…

	Daily	Weekly	Monthly	Less frequently	Not at all
towards digital services (as service users)?					
in using digital services?					

45. Does your work involve digital client/patient contact? This does not refer to work carried out by telephone.

- Yes
- No

46. Does your work only include digital client/patient contact?
[Survey rule: The question appears to the respondent if they answers question 45: "Yes"]

- Yes
- No

47. How often has your work included the following digital service events in the past 6 months?
[Survey rule: The question appears to the respondent if they answers question 45: "Yes"]

	Daily	Weekly	Monthly	Less frequently	Not at all
Anonymous service					
Real-time or non-real-time communication with the client					
The customer has identified themselves					
Customer video reception					

	Daily	Weekly	Monthly	Less frequently	Not at all
Real-time digital communication with the client					
Non-real-time digital communication with the client					
Helping the client's care in a digital service without direct customer contact					
Other					

48. **Do you feel that you have received enough support for doing digital work?**

[Survey rule: The question appears to the respondent if they answers question 45: "Yes"]

	Not at all	Only a little	Somewhat	Fairly much	Very much
from my immediate supervisor					
from my colleagues					

The following question concerns your thoughts on the use of digital technology in your work (e.g. patient information systems, different terminal devices, technologies used in patient care, technologies related to remote reception, digital interaction channels).

49. How often do you have the following kinds of feelings and thoughts?

	Daily	Weekly	Monthly	Less frequently	Not at all
I am enthusiastic about utilising technology in my job					
Utilising technology inspires me in my job					
I am proud that I utilise technology in my work					

50. Please write below if you have any comments or feedback on client information and health record systems

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

Thank you for responding!