A 2020 survey on information systems

Electronic health record and client information systems as registered nurses' tools

1. Suitability to the survey
I have not worked as a registered nurse in so many years that I am unable to answer the survey.

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

3. Year of birth
[2003-1950]

4. Year of completion of the degree in nursing
[1968-2020]

5. 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)

6. Job or professional title
Nursing director, senior nurse, director
Departmental sister, head nurse, foreperson of a unit
Assistant head nurse, ward sister
Specialist in nursing (e.g., a specialist nurse or a specialist in clinical nursing)
Midwife
Public health nurse
Paramedic
Registered nurse
Specialised registered nurse (e.g., hygiene nurse, diabetes nurse, wound care nurse)
Clinical nurse educator
Other work of a nurse
Other work than of a nurse

7. The place of main employment when you are working with patients or clients
Inpatient ward or round-the-clock care unit
Community care, outpatient clinic or surgery, including mother-child clinic and school health care
ER (accident and emergency department)
Emergency care
Administration
Examination unit (e.g., laboratory, diagnostic imagining, endoscopy, heart station)
Operating theatre

Intensive care unit
Delivery room
A mobile care unit
Hospital-based home care
Home nursing care
Online services (e.g., a virtual hospital or a virtual unit)
Residential care home

8. Main employment sector
Municipality
State
Private (incl. The Social Insurance Institution of Finland (Kela))
University or other educational institution
Third sector
I am currently not doing clinical work with patients or clients

9. Place of main employment
University central hospital
Central hospital
Other public hospital (regional hospital, town hospital)
Municipal health centre, welfare centre/ station
Private medical station, centre, or hospital
Foundation, association, or non-profit organization
State office/ institution/ hospital
Social welfare (residential care home, intensive sheltered housing, social welfare drop-in services)
Other, please specify

10. Location of your main employment (hospital district), please select
Åland
South Karelia
South Ostrobothnia
South Savo
Helsinki and Uusimaa
East Savo
Kainuu
Kanta-Häme
Central Ostrobothnia
Central Finland
Kymenlaakso
Lapland
Länsi-Pohja
Pirkanmaa
North Karelia
Northern Ostrobothnia
North Savo
Päijät-Häme
Satakunta
Vaasa
Southwest Finland

11. 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 patient

data):
0
1
2
3
4
5 or more
I do no clinical work

12. 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

13. What is the main electronic health record/ client information system you mainly use in your work?
Abilita
Acute
ATJ / VATJ
Aura / AmmAura
Diarium
DomaCare
DynamicHealth
Effica healthcare
Effica social services
Epic (Apotti)
Esko
Graafinen Finstar
Hilkka
Lifecare
Mediatri
Medicus
Merlot-Medi
Nappula
Pegasos
Safir
Siro
Softmedic
SofiaCRM
Uranus
Other, please specify

14. On a scale of 4 to 10 (with 4 being the lowest score and 10 being the highest score) how would you rate the electronic health record/ client information system that you mainly use?*
10
9
8
7
6
5
4
I am not able to give a grade, or I don't wish to do so

15. Do you use the information system also on a mobile device (such as a smartphone or a tablet)?
Yes
No
The information system cannot be used on a mobile device

16. For how long have you used the system in question? For less than 6 months, 6-12 months, 1-3 years, 3-6 years, more than 6 years
Less than six months
Six months – one year
One year – three years
Three years – six years
More than six years

17. When you work with the electronic health record/ client information system, what is your role?
User
Superuser/ root user
Person in charge
Developer
Other, what?

18. Use the following statements to assess the functionality of the electronic health record/ client information system that you use.

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
I cannot say

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

19. Use the following statements to assess the usability of the electronic health record/ client information system you use.

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
I cannot say

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

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

Fully agree

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
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
Using the information system on a mobile device is easy
Using the information system on a mobile device speeds up nursing documentation

21. Use the following statements to assess how the information systems you use support the documentation of nursing care.

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
I cannot say

The use of standardized documentation makes it easier to utilize patient/client data
Information documented into the nursing record is in an easily readable format
It is easy to retrieve the nursing record data
The patient's current medication list is presented in a clear format
The system supports reacting to and finding doctor's orders
Documentation of client/ patient data for statistical and reporting purposes is fast
Generally, the information system supports nursing documentation
The electronic health record/ client information system supports compiling a nursing discharge summary

22. How experienced do you consider yourself as a user of electronic health record/ client information system?
1 (beginner)
2
3
4
5 (highly experienced)

23. I have received sufficient in-house training in changing work practices (e.g., new electronic documentation and care practices) due to information system implementation

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
I cannot say

24. Use the following statements to assess the in-house training/ education you have received.

Fully agree
Somewhat agree
Neither agree nor disagree

As a new employee, I received enough in-house training in information system use

Employer offers continuous training in electronic health record/ client information system use

25. 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)

Documentation of patient care according to the nursing process

Documentations to an electronic health record/ client information system

Documentation of nursing diagnosis (FiCND)

Documentation of the goals of planned care

Documentation of planned nursing interventions (FiCNI)

Documentation of nursing interventions (FiCNI)

Documentation of the assessment of patient outcomes (FiCNO)

Documentation of nursing care intensity

Compiling of a nursing discharge summary

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

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

Supporting a client in choosing the most appropriate services

Working in a digital healthcare environment

Development of e-health services in multiprofessional collaboration with patients and other stakeholders

Complying with data protection and data security principles in daily work

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

26. To what extent do you agree with the following statements on data protection?

I am aware of external threats to the data we possess and to the systems using such data.

I find that the IT-department's initiatives to secure data and computers are more of a nuisance than a benefit.

I am attentive towards how I operate computers to avoid being hacked.

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

Information systems help in preventing errors and mistakes associated with medications

Information systems help to avoid duplicate tests and examinations
Some of my duties have shifted to other professionals, to patients or close relatives.
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
Use of information system speeds up decision-making in patient care.

28. 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

29. 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
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
I cannot say
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

30. In what way are you interested in participating in the development of information systems in the future?
By introducing my work and needs related to my work to program developers.
By participating in a development group or a workshop.
By writing feedback and development suggestions to the system vendor (via a feedback channel)
By telling about problems to the person responsible of information system development in my organization
By testing the information system or its' new features before system implementation.
By working as an expert of medicine/ nursing/ social care in a system vendor organization.
By another way, how/ what?
I am not interested in participating

31. In order to give feedback to system vendors, we ask which of the following problems in the current information systems complicate your work the most?
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
The slowness of the system
The unexpected downtime of the system
Illogicality (paths need to be learned by heart)
Poor coverage of electronic decision support (notes, reminders, and links to clinical guidelines)
The systems do not help to prevent errors
Poor usability of the regional information system (= a means of obtaining information of a patient who has been treated in another organization)

Poor usability of Kanta Services
Acknowledgment of information received in results mail / memo / in-basket and reacting to it is arduous.
Composing nursing discharge summary in not automatic.
Electronic communication with the patient is lacking or arduous
Forms are not intelligent or self-completing (e.g., referrals, certificates)
Lack of singe log in/ lack of desktop integration.
Lack of medication list (data quality [coverage, up-to-dateness, consistency] or usability of the list)
Some other, please specify.

32. In order to give feedback to system vendors, we ask about what works well in electronic health record/ client information systems? Please choose as many features as you like.
Availability of client/ patient data despite the nurse's location
Electronic prescription (e-prescription)
Reminders of e.g., laboratory tests needed
Saving of phrases and/or favourite prescriptions/orders
Logical keyboard shortcuts (e.g., CTRL for printing)
Structured nursing documentation makes it easier to get an overall picture of the patient
Possibility of editing the view according to one's own needs
Retrieving physician's orders is easy
Results mail / memo (for laboratory results, for example)
Self-completing and logical forms
Reading latest orders (or additional orders) is easy
Checking of drug interactions
Management of work, office, or appointment lists
The software provides data to support knowledge management (e.g., reports, summaries)
Using the search function makes it quicker to find the proper category of structured documentation
Using a search engine speeds up getting an overall picture of the certain phase of the care process
Information retrieval from Kanta Services
Some other, please specify.

33. To what extent do you use the following ways of obtaining 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 Services

34. 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 patients

35. Getting patient data from another organization often takes too much time

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
I cannot say

36. How, all in all, do the information systems used in an organization work as a management tool? (NB If you are not in a managerial position, you may move on to question 37.)

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
I cannot say

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 collect information needed for management from several information systems
Information 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
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

37. If during last 12 months you have noticed patient safety incidents caused by use of information systems, what kinds of errors occurred?

Never
Monthly
Weekly
Daily
I cannot say

System crashed or froze
System didn't open
A quality register integrated to the system didn't open
The connection to Kanta Services or Prescription Centre did not open
The system did not recognize its' integrated sections after a software update
Medication list wasn't verified
The documentation was missing
The documentation was made to a wrong patient
The documentation was done in the wrong place
The documentation had errors in it (e.g., a wrong medicine was selected)
The documentation lacked information (e.g., risk information was missing)
Patient's personal data was incomplete

38. How did you act in the situations described above? You may choose one or more options.
I spoke with my manager
I spoke with my colleague
I informed the patient or his/her relatives
I informed the system's main user
I reported to the help desk
I created a patient incident report to the organization's patient safety reporting system
I created a patient incident report to another patient safety reporting system (e.g., to national authorities)
I didn't do anything

39. Thinking back on your experiences on safety hazards: If you didn't report incidents, what caused you to decide not to report it?

Fully agree
Somewhat agree
Neither agree nor disagree
Somewhat disagree
Fully disagree
I cannot say

Incident caused no harm to patient
The reporting process is too demanding
Reporting has no effect on my organisation's decisions
I was worried about the consequences
My organisation doesn't require me to report incidents
I didn't have time to report
The risks caused by the incident were minor

40. How often have you been distracted, worried, or stressed (during the past half-year period)?

Never
Very rarely
Quite rarely
Quite often
Very often
Constantly

Continuing time pressure and pressure from unfinished work
Too little time to do the job properly
Constantly changing information systems
Difficult, poorly performing IT equipment / software

41. Think about your work and assess how often you face following situations

Never
Monthly or more rarely
Weekly
Daily
Several times a day

I have not remembered a work-related password, set of numbers, etc.
I have not fully listened to the instructions or requests I have received
I have accidentally started or closed the wrong device, system, or program

42. 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

43. Please write below if you have any comments or feedback on health record systems

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

Thank you for responding!