eHealth-monitor

Remote assistance and support

Theme discussion 4
eHealth-monitor 2019

See also the other online theme discussions:

This theme discussion is part of the report *eHealth-monitor 2019*. It describes the use of and experiences with IT applications with regard to illness and health that can be used by healthcare users themselves in their own environment. The most important findings and possible follow-up steps are listed at the start of this theme discussion. This is followed by a more detailed description of the research results. The text refers to tables that are provided in the *tables annex*.

Report eHealth-monitor 2019

Tables Annex eHealth-monitor 2019
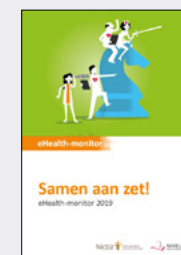
Necessity and added value

Online access and contact

Self-management and telemonitoring

Electronic data exchange and communication between healthcare providers

Together we can do it!

Remote assistance and support

In light of the growing number of people with a chronic condition, the increasing complexity of the issues, a decreasing number of healthcare providers and a shift in healthcare, the implementation of remote healthcare is becoming more and more important[1-3].

Other reasons for the increasing importance assigned to technological applications are the push towards healthcare and support that are not constrained by time or location, to enable people to live at home as long as possible or not be hospitalised any longer than necessary.

Effective implementation and use of IT applications focused on remote assistance and support can contribute to 'the right care at the right time', i.e. prevention of (more expensive) healthcare, shifting of healthcare (closer to home) and replacement of healthcare [4].

Together we can do it!
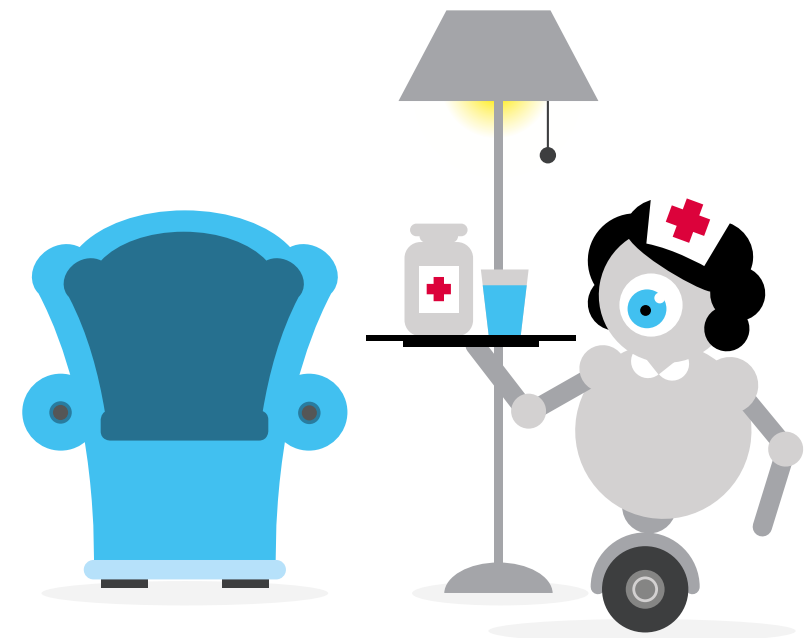
Discussion of the most important findings

The objective of telemedicine and home automation

In 2014, the eHealth-monitor started monitoring the objectives of then-Minister of Health, Welfare and Sport (VWS) , Edith Schippers. This eHealth-monitor focuses specifically on the extent to which these three objectives have been realised. One of the objectives concerns telemedicine and home automation (**Box 4.1**). Since this objective is focused primarily on elderly care, the findings for elderly care are presented first, followed by those for hospital and general practice.

Box 4.1 The objective of self-monitoring and data monitoring

"Everyone who receives healthcare and support at home will have the option of communicating –if they wish – with a healthcare providers via a computer monitor 24 hours a day. Home automation is also being implemented in addition to telemedicine. This helps people to continue living safely at home for longer.[5]"

Limited availability of video conferencing in elderly care due to alternative applications?

Healthcare providers and people with a chronic condition were asked again this year whether they use video conferencing (contact between patient/client and healthcare provider via a video screen). The growing availability of video conferencing we saw during the past few years in healthcare did not continue this year. In 2019, 14 percent of the elderly care nurses indicated that their organisation uses video conferencing .

5 percent of the people with a chronic condition who receive healthcare and support at home uses video conferencing with a healthcare provider. Based on the minimal implementation and use of video conferencing by people with a chronic condition who receive healthcare and support at home – the target group of this objective – we can conclude that the objective was not achieved.

All the same, it seems that the implementation of video conferencing could be a useful application in elderly care, because half of the elderly care nurses who use video conferencing experience benefits from video calls in terms of decreased work load and time saved. They do think that video conferencing is difficult for some patients, however. Less than one quarter of the people who receive healthcare and support at home think they will experience benefits from video conferencing , such as the ability to live home longer and/or with greater ease.

Contrary to the use of video conferencing, we did see an increase in the use of alternative applications in elderly care that can help people to live safely and independently at home for longer. For example, in elderly care nursing we see an upward trend in the availability of monitoring technologies such as motion sensors or alarms. We also see an increase in the availability of medicine dispensers, digital medicine double-checks and care robots. The majority of elderly care nurses feel that the use of monitoring technologies offers benefits in terms of client safety and the quality of life of clients and/or the people around them. They also feel that medicine dispensers contribute to the self-sufficiency of clients and to medication safety. However, the increase in alternative applications is not seen among people with a chronic condition who receive healthcare and support at home. The application used most frequently by people with a chronic condition is a device that allows the client to send an alarm notification to a healthcare provider.

Sharing of experiences is essential for scaling up

The positive experiences with video conferencing in the intramural elderly care organisations can be shared with home care nurses to highlight the added value of these applications, and so they can be scaled up. However, it is important to carefully assess which patients would or would not be candidates for video conferencing and/or whether education about video conferencing is needed. Like other IT applications, video conferencing can be implemented more effectively within a context of 'blended care', where video conferencing is not an option but part of the standard contact between patient and healthcare providers, in addition to traditional face-to-face contacts. This combination of different types of healthcare will enable the client and the healthcare provider to gain experience and hopefully experience the added value[6].

Embed video conferencing in integrated healthcare processes

The availability of video conferencing (contact between patient and healthcare provider via a video screen) in general practice and hospital care settings is limited as well. This could be due to a lack of enthusiasm; healthcare providers think that video conferencing will mostly be beneficial for patients and less to for themselves.
In addition, 90 percent of the doctors think that the use

of video conferencing has disadvantages. For example, more than half of the doctors think it will hinder their ability to assess the patient properly compared to the regular face-to-face contacts. However, previous studies have shown that there was no significant difference between video consultations and face-to-face consultations in terms of the quality of the communication and the relationship between doctor and patient or the shared decision-making process [7].

Effective use of video conferencing does require good preparation, however. For example, a British study showed that making video conferencing part of the daily routine presented complex challenges, in particular for organisations that are not yet fully convinced of the need for change [8]. This indicates that the effective implementation of video conferencing requires adjustments in healthcare and work processes(see also Theme Discussion *Self-management and telemonitoring*).

To this end, agreements and changes will have to be made in advance, for example by determining the types of consultations, or establishing agreements within the sector that would benefit from video conferencing . It is important to realise that, as with other technological innovations, some healthcare providers will quickly adopt telemedicine, while others will require incentives and support.

Another reason for the low use of video conferencing may be related to insurance coverage: video calls have been covered since 2014, but since 2018 other 'remote consultations' such as app and email contact are covered as well. This gives healthcare providers more options for digital contact. This is reflected in the availability of secure email or the possibility for patients to ask medical questions via an app or portal such as 'BeterDichtbij' (see also Theme Discussion *Online access and contact*). In light of the reported disadvantages of video conferencing, it makes sense that people are looking for alternatives such as apps.

Possible follow-up steps

- The option of online contact via video conferencing, apps or email seems to fit in well with the 'replacement and shifting of healthcare'. However, effective implementation requires thorough preparation, support and adjustments in healthcare and work processes.

- In order to further scale up online contact in this sector, it would seem essential for intramural elderly care organisations to share their experiences with monitoring technologies and home automation with home care providers.

- Offering blended healthcare may help clients who receive healthcare and support at home to change their preconceptions about video conferencing, as this allows both the clients and healthcare provider to gain experience and hopefully experience the added value.

Elderly care

Rise in video conferencing in elderly care did not continue in 2019

In 2019, five percent of the people with a chronic condition who receive healthcare and support at home used video conferencing with a healthcare provider. This percentage is the same as in previous years (Table 4.15). 15 percent of the elderly care nurses indicate that their organisations use video conferencing. In 2018 this was still 23 percent.
The rise in the use of video conferencing by elderly care nurses did not continue this year (**Figure 4.1**) (Tables 4.9 and 4.10).

The use of home automation and monitoring technologies among people with a chronic condition who receive healthcare and support at home did not go up either (**Figure 4.2**). The most frequently used application is a device 'clients can use to send an alarm to the healthcare provider' and 15 percent of the people with a chronic condition who receive healthcare and support at home are interested in using this application (Tables 4.22 and 4.23).

Figure 4.1
Nurses
Percentage that uses video conferencing in their organisation; in 2014-2019.

- Elderly care nurses
- Nurses in the cure
- General practice nurses
- Hospital nurses
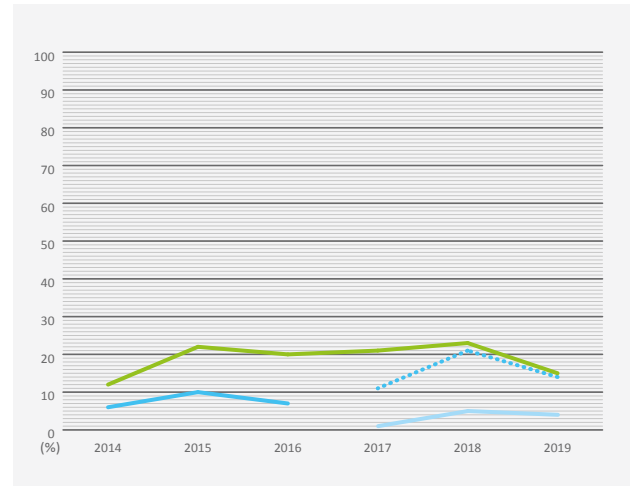
Figure 4.2
People with a chronic condition
Percentage with healthcare and support at home who have access to home automation; in 2014-2019.

- A device you can use to send an alarm to a healthcare provider in case of emergency
- An electronic door lock or an electronic locker for the house key, which the (home) care provider can open with a card or numeric lock
- Technology for remote control of appliances at home (e.g. via a tablet), like turning the lights on and off, or opening and closing the curtains
- An electronic medicine box which releases the right medications at preset times.

Together we can do it!

Increased use of monitoring technologies and other applications

We did see an upward trend among elderly care nurses in terms of the implementation of monitoring technologies. 84 percent of the elderly care nurses indicate that their organisations use monitoring technologies, especially motion sensors and personal alarms (Tables 4.17 and 4.18). There is also a significant upward trend in elderly care in the use of medicine dispensers (Tables 4.24 and 4.27), digital medicine double-checks (Tables 4.28 and 4.29) and care robots (Tables 4.30 and 4.31) (**Figure 4.3**).

Figure 4.3

Nurses in elderly care
Percentage that uses monitoring technologies and home automation in their organisation; in 2014-2019.
*** p ≤ 0.001

- Monitoring technologies***
- Medicine dispensers***
- Care robots***
- Digital medication double-checks ***
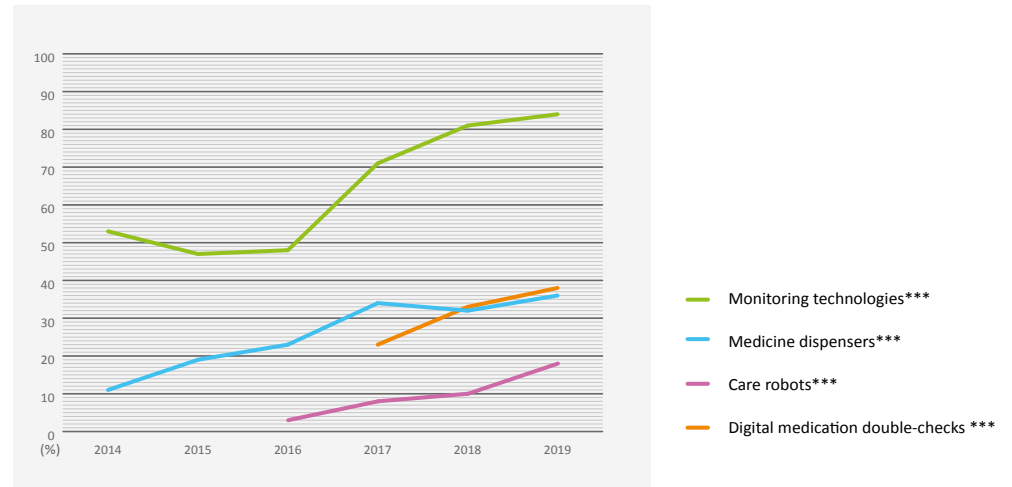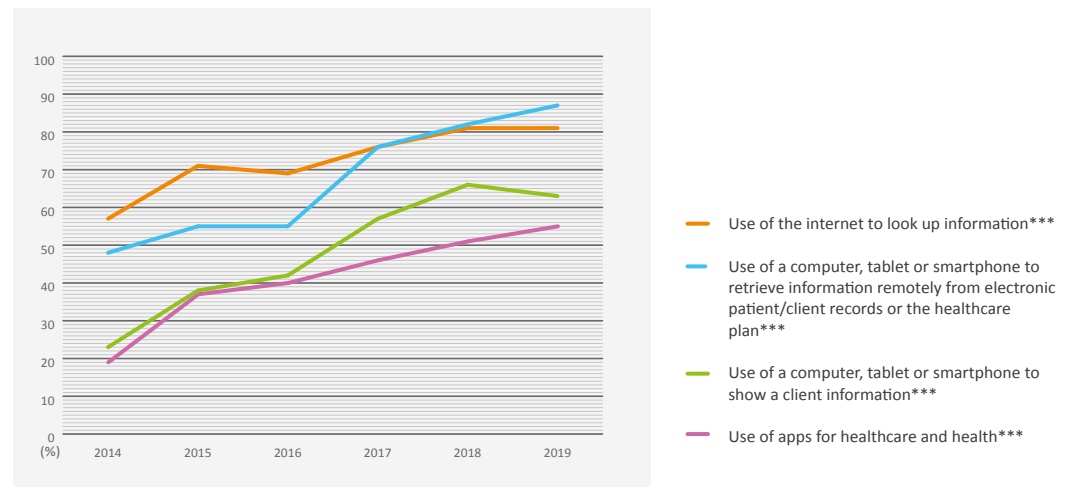
Elderly care nurses use online electronic patient records

There is a continuing trend in elderly care with regard to the use of computers, tablets and the internet. For example, almost nine out of ten elderly care nurses regularly or often use a computer or tablet to retrieve information remotely from an electronic patient record or care plan. More than half use apps for healthcare and health (Tables 4.1 and 4.4) (**Figure 4.4**).

Figure 4.4

Nurses in elderly care
Percentage that often or regularly uses IT applications in direct healthcare; in 2014-2019
*** p ≤ 0.001

- Use of the internet to look up information***
- Use of a computer, tablet or smartphone to retrieve information remotely from electronic patient/client records or the healthcare plan***
- Use of a computer, tablet or smartphone to show a client information***
- Use of apps for healthcare and health***

Video calls reduce the workload

Less than one quarter of the people who receive healthcare and support at home think that video conferencing will provide benefits such as the ability to live at home longer and/or with greater ease, improved healthcare and/or convenience. It should be noted that approximately 40 percent of this group is not sure how to assess the use of video conferencing (Table 4.16). It became clear in 2017 that people are open to using video conferencing as long as this is not to the detriment of regular healthcare[10].

A notable finding is that 65 percent of the elderly care nurses feel that video conferencing are convenient for the client. They also experience benefits for themselves in terms of decreased workload (52 percent) and time saved (48 percent) (Table 4.11) (**Figure 4.5a**). On the other hand, the difficulties experienced by clients in using video call applications is seen as a disadvantage by 67 percent of the elderly care nurses (**Figure 4.6b**) (Table 4.12).

Figure 4.5a
Nurses
Expected benefits of video conferencing; in 2019.
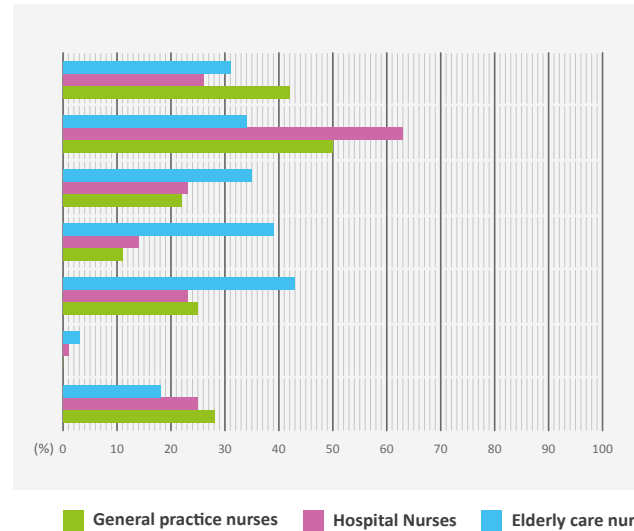
Video conferencing helps me to assess the client

Video conferencing is convenient for the client

Video conferencing improves the quality of healthcare in my organisation

Video conferencing reduces the workload

Video conferencing saves me time

Other, i.e.

I don't expect any benefits

■ **General practice nurses** ■ **Hospital Nurses** ■ **Elderly care nurses**

Figure 4.5b
Nurses
Expected disadvantages from video conferencing; in 2019.
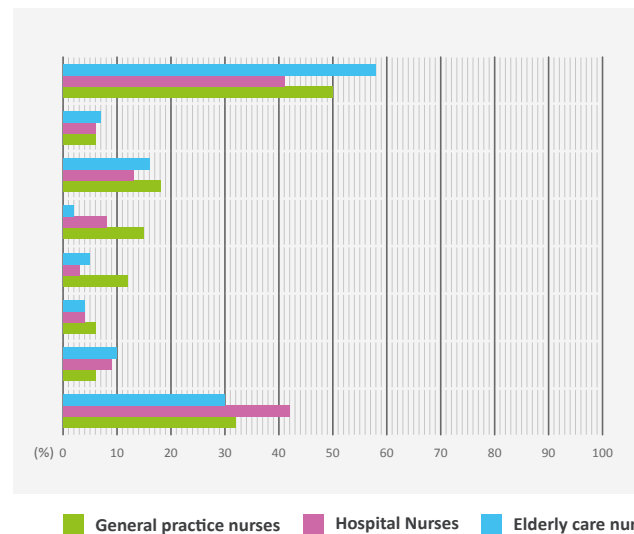
Clients have difficulties using it

Video conferencing decreases the quality of healthcare in my organisation

The technology doesn't work properly

The application is not secure

Video conferencing increases the workload

The effort it takes me to do video conferencing outweighs the benefits

Other, i.e.

I don't experience or expect any disadvantages

■ **General practice nurses** ■ **Hospital Nurses** ■ **Elderly care nurses**

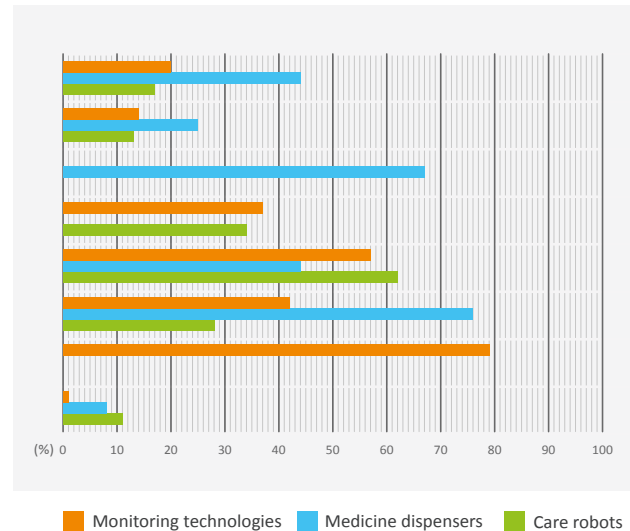## Live safely and independently at home for longer with IT applications

Elderly care nurses experience various benefits from the use of monitoring technologies and home automation. For example, they feel that monitoring technologies improve client safety (79 percent) and the quality of life of clients and/or those around them (57 percent) (Table 4.20).

In addition, elderly care nurses feel that medicine dispensers contribute to the self-sufficiency of the client (76 percent), medication safety (67 percent), and that they reduce the work load (44 percent) (Table 4.25), and that care robots improve the quality of life of the clients and/or those around them (Table 4.32) (**Figure 4.6**).

The disadvantages reported by one out of three elderly care nurses are that it takes a lot of time to follow up on notifications from monitoring technologies (Table 4.21), that clients have difficulties using medicine dispensers and that the technology is not feasible for very many clients (Table 4.26). In addition, 41 percent of this group of nurses feel that the implementation potential for care robots is too limited (Table 4.33).

Figure 4.6
Nurses in elderly care
experienced benefits of monitoring technologies, medication dispensers and care robots;
in 2019.
*the question was asked for one application
**this question was asked for two applications

It reduces the workload
It saves the informal care network and/or those close to the patient time
It improves medication safety*
It improves the quality of healthcare in my organisation**
It improves the quality of life of clients and/or those close to them
It promotes the self-sufficiency of clients
It promotes the safety of clients*
I don't experience any benefits

Monitoring technologies   Medicine dispensers   Care robots

General practice and hospital care

## The use of monitoring technologies has increased

As in elderly care, the use of video conferencing among hospital and general practice nurses is limited (Tables 4.9 and 4.10) (**Figure 4.1**). Moreover, none of the surveyed general practitioners offer video consultations. 6 percent of the medical specialists report using video conferencing in their organisations (Tables 2.21-2.24), although more than half of the hospital nurses use monitoring technologies (58 percent), in particular motion sensors and video camera monitoring (Table 4.17). The trend from the previous year in this regard is continuing (Table 4.18). There has been no significant increase in the use of medicine dispensers and medicine double-checks since 2017 (Tables 4.27 and 4.29) (**Figure 4.7**).

Figure 4.7

Hospital and general practice nurses
Percentage that uses monitoring technologies and home automation in their organisation;
in 2017-2019.
* p ≤ 0.05

General practice nurses
— Medication double-checks
— Medicine dispensers
— Monitoring technologies

Hospital Nurses
⋯ Medication double-checks
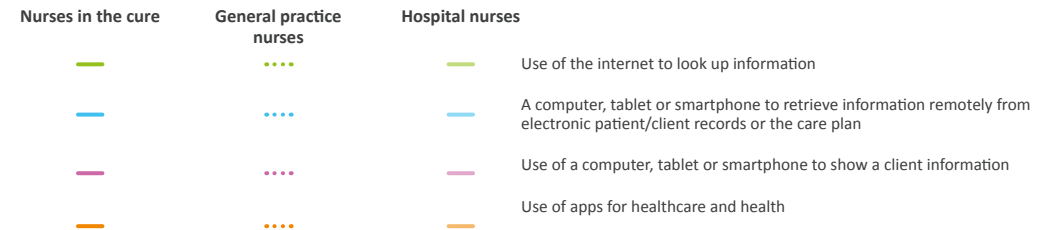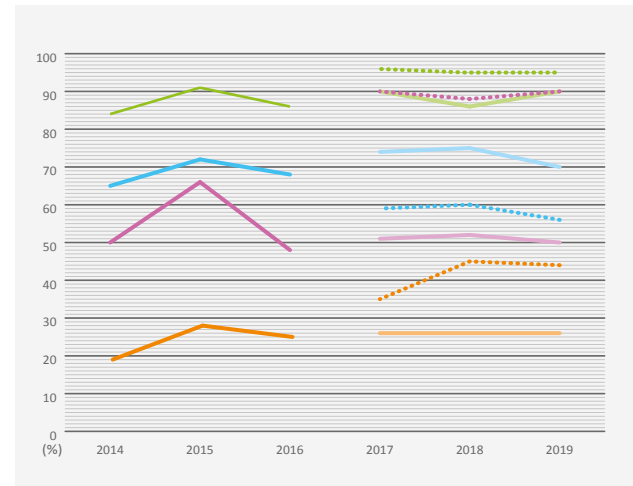⋯ Medicine dispensers
⋯ Monitoring technologies
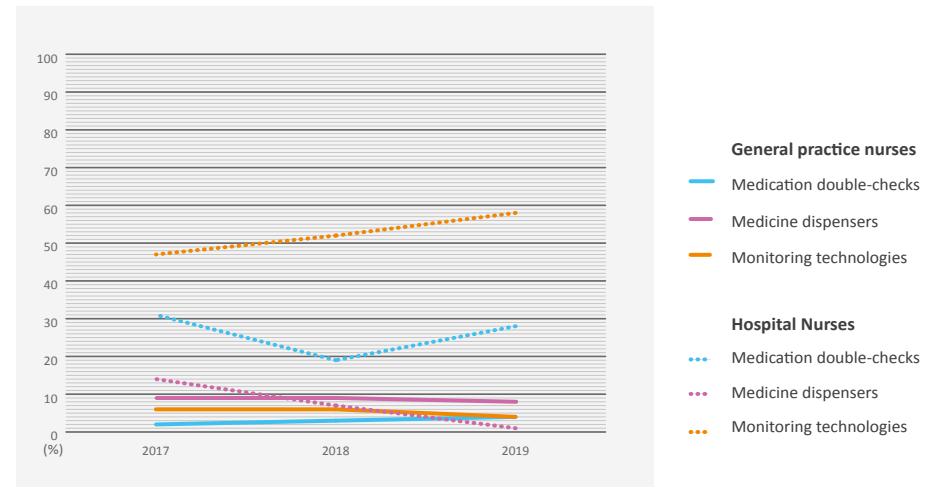
Frequent use of the internet in direct healthcare

There have been no significant changes in the use of the internet in direct healthcare since 2017 (Table 4.5). Almost all nurses from these two sectors indicate that they regularly or often use the internet to look up information. In addition, nine out of ten general practice nurses indicate that they use a computer or tablet to show clients information (Table 4.3). Seven out of ten hospital nurses indicate that they use a computer or tablet to retrieve information remotely from electronic patient records (Table 4.2) (**Figure 4.8**).

## Differing expectations regarding the benefits and disadvantages or telemedicine and home automation

Healthcare providers in hospital and general practice settings think that video conferencing is primarily convenient for the patient) (**Figure 4.9a**). In addition, 64 percent of the general practitioners and medical specialists think that video conferencing will interfere with their ability to assess the patient in comparison with face-to-face contact (**Figure 4.9b**). Hospital nurses feel that monitoring technologies improve client safety (81 percent) (Table 4.20). In addition, approximately half of this group think that the use of medicine dispensers improves medication safety (53 percent) and promotes the self-sufficiency of patients (47 percent) (Taber 4.25). However, 43 percent expect

Figure 4.8

Nurses in the Cure
Percentage that often or regularly uses IT applications in direct healthcare; in 2014-2019

| Nurses in the cure	General practice nurses	Hospital nurses	
——	····	——	Use of the internet to look up information
——	····	——	A computer, tablet or smartphone to retrieve information remotely from electronic patient/client records or the care plan
——	····	——	Use of a computer, tablet or smartphone to show a client information
——	····	——	Use of apps for healthcare and health

that one disadvantage is that patients have difficulties using the technology (Table 4.26). It in addition, a notable finding is the expectation of hospital nurses regarding the use of care robots; 45 percent think that it will reduce the workload (Table 4.32). In terms of the disadvantages of care robots, approximately one out of three hospital nurses think that clients have difficulties using them (35 percent) and that the application only has limited potential for implementation (33 percent) (Table 4.33).

Figure 4.9a
Doctors
Expected benefits of video conferencing; in 2019.
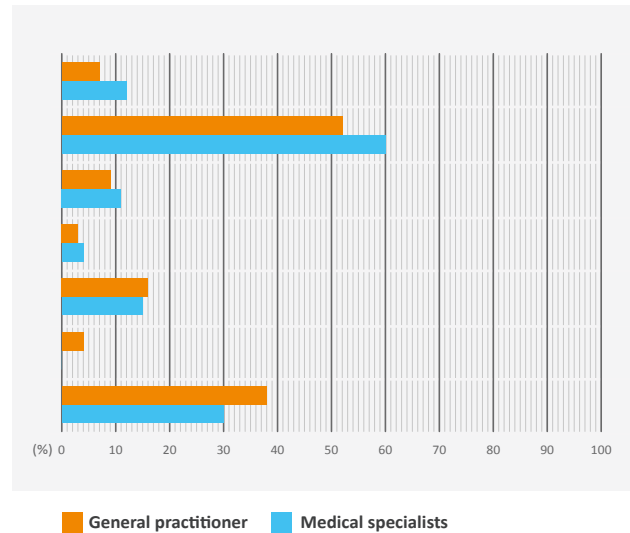
- Video conferencing is just as effective as face-to-face consultations for assessing the patient
- Video conferencing is convenient for the patient
- Video conferencing improves the quality of healthcare in my practice / at my department
- Video conferencing reduces the workload
- Video conferencing saves me time
- Other benefits
- I don't expect any benefits

General practitioner   **Medical specialists**

Figure 4.2b
Doctors
Expected disadvantages from video conferencing; in 2019.
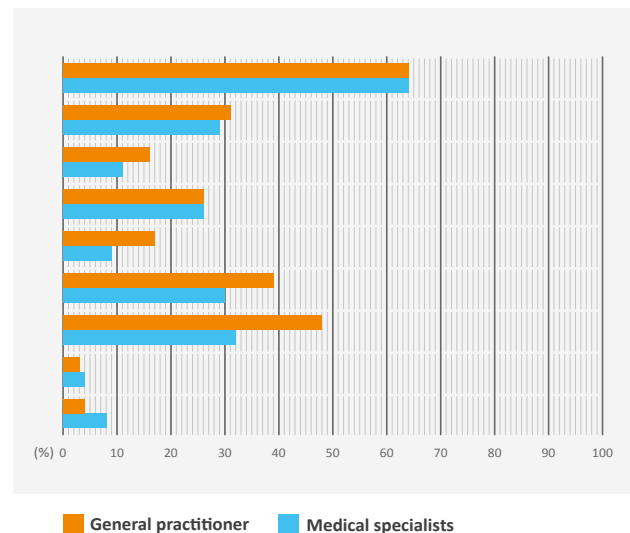
- It is harder for me to assess the patient properly through video conferencing than through face-to-face contact
- Patients have difficulties using it
- Video conferencing decreases the quality of healthcare in my practice / at my department
- The technology doesn't work properly
- The application is not secure
- Video conferencing increases the workload
- The effort it takes me to do video conferencing outweighs the benefits
- Other disadvantages
- I don't experience or expect any disadvantages

General practitioner   **Medical specialists**

Together we can do it!

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