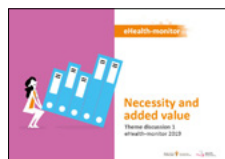


Electronic data exchange and communication between healthcare providers

Theme discussion 5
eHealth-monitor 2019

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See also the other online theme discussions:



Necessity and added value



Online access and contact



Self-management and telemonitoring

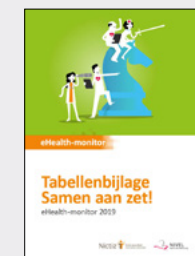


Remote assistance and support

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



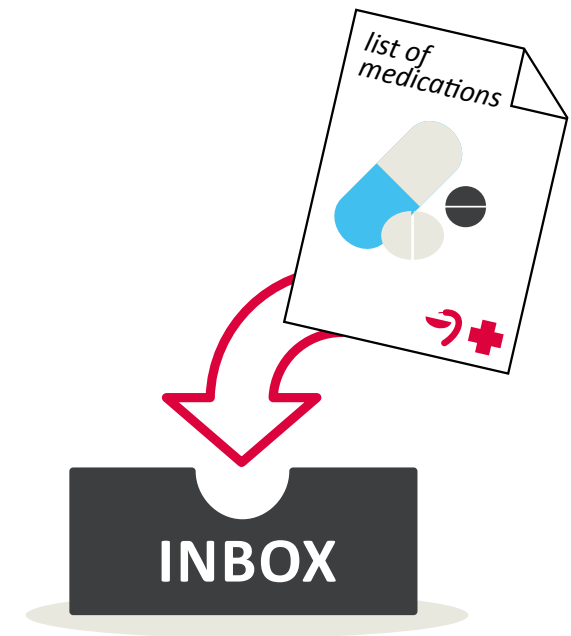
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Electronic data exchange and communication between healthcare providers

Good information exchange between healthcare providers is an essential condition for providing good healthcare. Healthcare providers should have timely access to the necessary, most up-to-date medical information of the patient, to ensure patient safety¹⁻⁴ and prevent inadvertent complications or even hospitalisations.

Digital, standardised information exchange can also alleviate the administrative burden⁵ and prevent situations where people have to repeat the same story over and over⁶. “Efficient electronic data exchange in healthcare can prevent errors and frees up the healthcare providers to spend more time with the patient. It is therefore important in the interest of patient safety to make digital ‘the new normal’, according to Minister Bruno Bruins in a letter to Parliament in December 2018.

The Minister announced that the government will be taking a more active role in the area of digitised data exchange in healthcare, for example by making it a statutory obligation⁷, and through the creation of incentive programmes such as VIPP, OPEN and MedMij.



Discussion of the most important findings

Electronic data exchange takes place primarily within the same region

General practitioners and medical specialists are more often able to exchange electronic data with general practitioners and hospitals within their own region than with those outside their region. In 2019, 66 percent of the medical specialists was not able to exchange standardised data with hospitals outside of the region, even though medical specialists do think this would be advisable. One reason for this could be that the Landelijk Schakelpunt (national exchange point, LSP) is limited to regional exchanges⁸.

However, data exchange does not stop at regional or even national borders, as it is becoming increasingly common for patients to travel to obtain healthcare. Representatives of general practitioners, medical specialists and nurses explained in a letter to Parliament that they do not think it is advisable for healthcare institutions to have to connect to multiple infrastructures to exchange their data with different regions⁹. They called for the organisation of 'cross-regional' data exchange. The regional limitation of the LSP is expected to disappear in 2020. On 1 July 2020 the Processing of Personal Data in Healthcare (Additional Provisions) Act (Dutch Wabv pz) will take

effect, which will enable patients to specify in their consent which healthcare providers are allowed to see information from their medical records. To make this possible for treatment relationships beyond regional borders as well, provisions need to be made for cross-regional data exchange¹⁰.

Although there has been improvement within regions with regard to the number of general practitioners who can exchange standardised electronic data with

home care organisations (26 percent in 2019 compared to 11 percent in 2014), there is still not much standardised electronic data exchange between physicians and local healthcare providers such as home care organisations, nursing homes, independent treatment centres (Dutch ZBCs) and mental health institutions. As in 2018, this remains a point for attention. The Roadmap for priority data exchange (**Box 5.1**) includes several examples of types of data exchange that need to be digitised on an accelerated basis.

Box 5.1 Roadmap for priority data exchange

In December 2018, Minister Bruins announced several measures that were designed to increase control of electronic data exchange between healthcare providers. In order to implement the desire of Parliament to exercise more control, steps are being taken to make digital data exchange a statutory obligation. The starting principle is that the digitisation of data exchange will be based on mandatory, uniform agreements on language and technology. During the first half of 2019 the Information Council worked with healthcare providers and suppliers

on a Roadmap: a prioritised set of data exchanges that have to be digitised. "Every data exchange included in the Roadmap must contribute to good healthcare. For each data exchange it must be clear, prior to digitisation, 'which information' is needed 'at which time, in which place' for good healthcare", according to Minister Bruins in a letter to Parliament. The 'Electronic Data Exchange in Healthcare' programme will prepare the legislative proposal and establish the mandatory building blocks for language and technology⁷⁻¹¹.

General practitioners and medical specialists indicate that in practice, the most pressing issue is the exchange of medication data. Improvement of medication data is an important point for attention for the so-called priority data exchanges.

Three quarter of the general practitioners have access to teleconsultations

Almost three quarter of the general practitioners use teleconsultations, which allows them to consult medical specialists remotely about a case, test results and/or images. Teleconsultations can contribute significantly to the substitution of healthcare and the resulting cost savings, as shown by a pilot study in Nijmegen¹². This pilot study on teleconsultations for knee, back and thyroid problems revealed a decrease in the number of referrals to second-line care.

In the 'Negotiation Agreement on General Practice', practitioners commit to the active exchange and scaling up of good examples from practice, such as applications that support mutual communication and rapid consultation¹³. It is therefore up to the healthcare providers to gain more experience with these applications on the basis of the good examples. It is important in this context to look at fields where the effectiveness of these applications have been proven, such as dermatology and nephrology¹⁴.

Use of digital decision support still not widespread

A minority of the general practitioners and the medical specialists are convinced that decision support software improves the quality of healthcare. Decision support software is software which presents the expected outcomes of different treatments for a particular patient when a decision needs to be made (via algorithms) and/or offers possible diagnoses on the basis of the entered characteristics. The majority of the doctors indicate that they can see themselves following the suggestions of the decision support software. To ensure optimal use, the end users and the place of the software in the healthcare process need to be taken into consideration in the development of decision support software. Training and educating the software users is important as well (**Box 5.2**).

Box 5.2 The Centre for Ethics and Health about decision support software

Medical expert systems - such as artificial intelligence applications - are able to analyse large quantities of information and support doctors in preparing a prognosis, diagnosis or treatment proposal. The Centre for Ethics and Health (Dutch CEG) investigated electronic decision support in 2018 and concluded that it can offer added value to doctors. In its study, the CEG states that it is important for the decision support systems to be implemented properly. Users need to have specific competencies to be able to utilise the potential of expert systems. The CEG therefore recommends assisting doctors when they start using these systems and making sure that these systems are assessed and implemented within the context of the complex (hospital) practice¹⁴.

Conclusion and recommendations

A properly working ICT system and good connections are conditions for providing good healthcare. Information must be recorded in a standard format, it must be exchangeable and usable for various purposes. These conditions are increasingly being met, especially now that the Ministry of Health, Welfare and Sport is working with healthcare providers on improving and scaling up digital data exchange in healthcare. This can serve as a catalyst for improved information exchange. By working together on effective mutual information exchange of written records and images between healthcare providers, this information will also become more accessible for the patients. To accelerate the improvement and scaling up of these exchanges, IT providers need to work with the healthcare field to make this a high priority.

Box 5.3 Good examples for more effective electronic information exchange

Information Standard for the Medication Process (Mp9)

Various stakeholders are currently working on the implementation of the Information Standard for the Medication Process (MP9). This means that it will soon be possible to exchange information about medication changes or discontinuations as well. In addition to logistical data, the Information Standard for the Medication Process enables the exchange of therapeutic data as well, so medication changes or discontinuations can be shared. This allows pharmacists to see if the dosage of a particular medication has been changed (www.nictiz.nl).

Manifesto “Moving Forward Together”

In March 2019, employer organisations VNO-NCW and MKB-Nederland presented the manifesto “Samen vooruit [Moving Forward Together]” to Minister Bruins. The goal of the manifesto is the accelerated development of a secure, standardised, unambiguous form of data exchange. This initiative by IT providers, among others, is supported by many sector and umbrella organisations in healthcare.

More data exchange within the region than outside of the region

Medical specialists and general practitioners are more often able to exchange standardised electronic data with general practices and hospitals within their region than outside of their region (Figures 5.1 and 5.2) (Tables 5.3-5.6).

Exchange with local parties frequently not possible yet

Although the number of general practitioners who can exchange standardised electronic data with home care organisations within their region has increased (26 percent in 2019 compared to 11 percent in 2014), there is still not much exchange between physicians and local healthcare providers such as home care organisations, nursing homes, independent treatment centres (Dutch ZBCs) and mental health institutions. Unlike general practitioners, medical specialists exchange very little electronic information with ZBCs and mental health institutions (Figure 5.1). General practices often lack an electronic connection with community nurses, nursing homes, home care organisations and dementia case managers (Figure 5.2). In addition, general practitioners and medical specialists indicate primarily that they would like to be able to exchange medication data more often (Figures 5.3 and 5.4) (Tables 5.3-5.6).

Figure 5.1

Medical specialists
Percentage whose department uses a system for standardised electronic information exchange with other healthcare providers or healthcare institutions; in 2014-2019.
* $p \leq 0.05$;
** $p \leq 0.01$;
*** $p \leq 0.001$

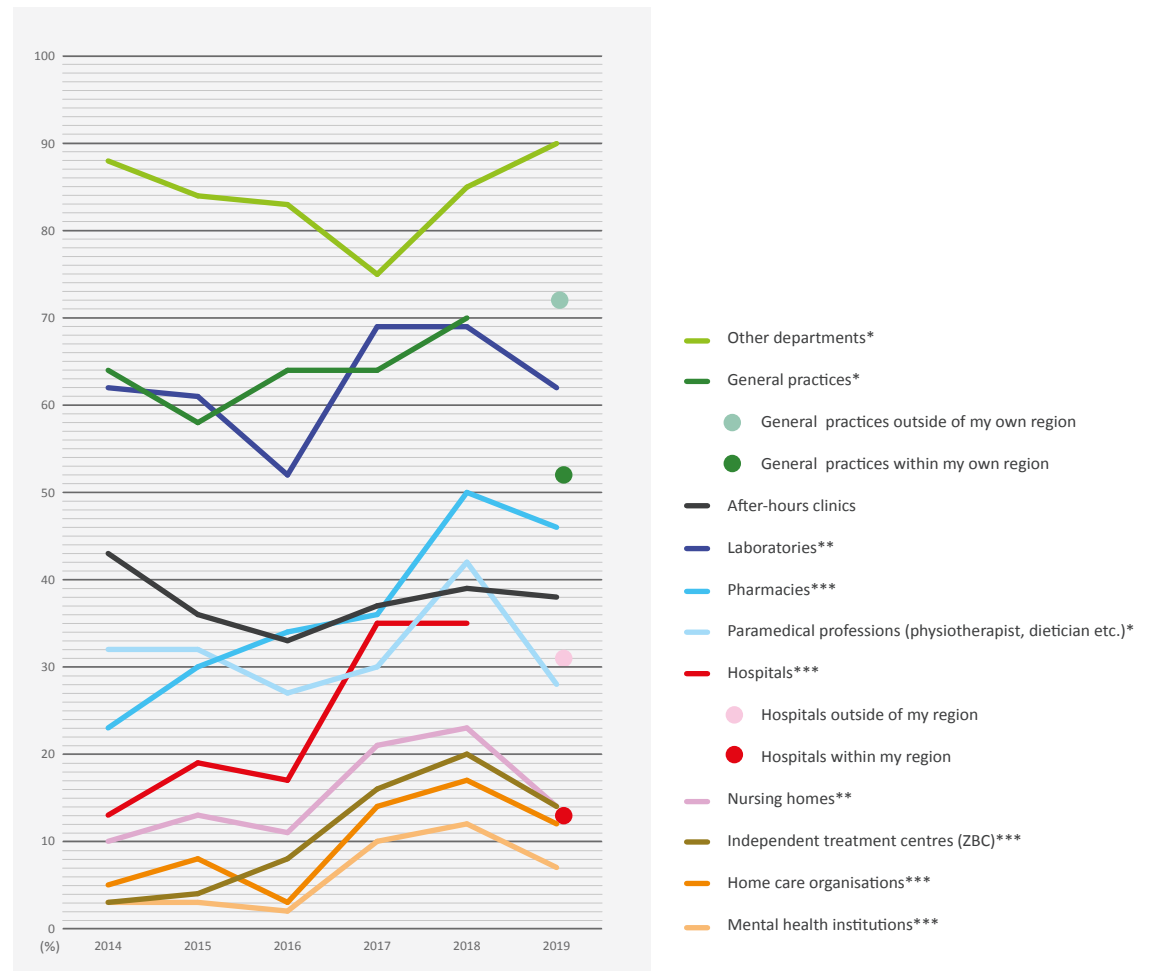
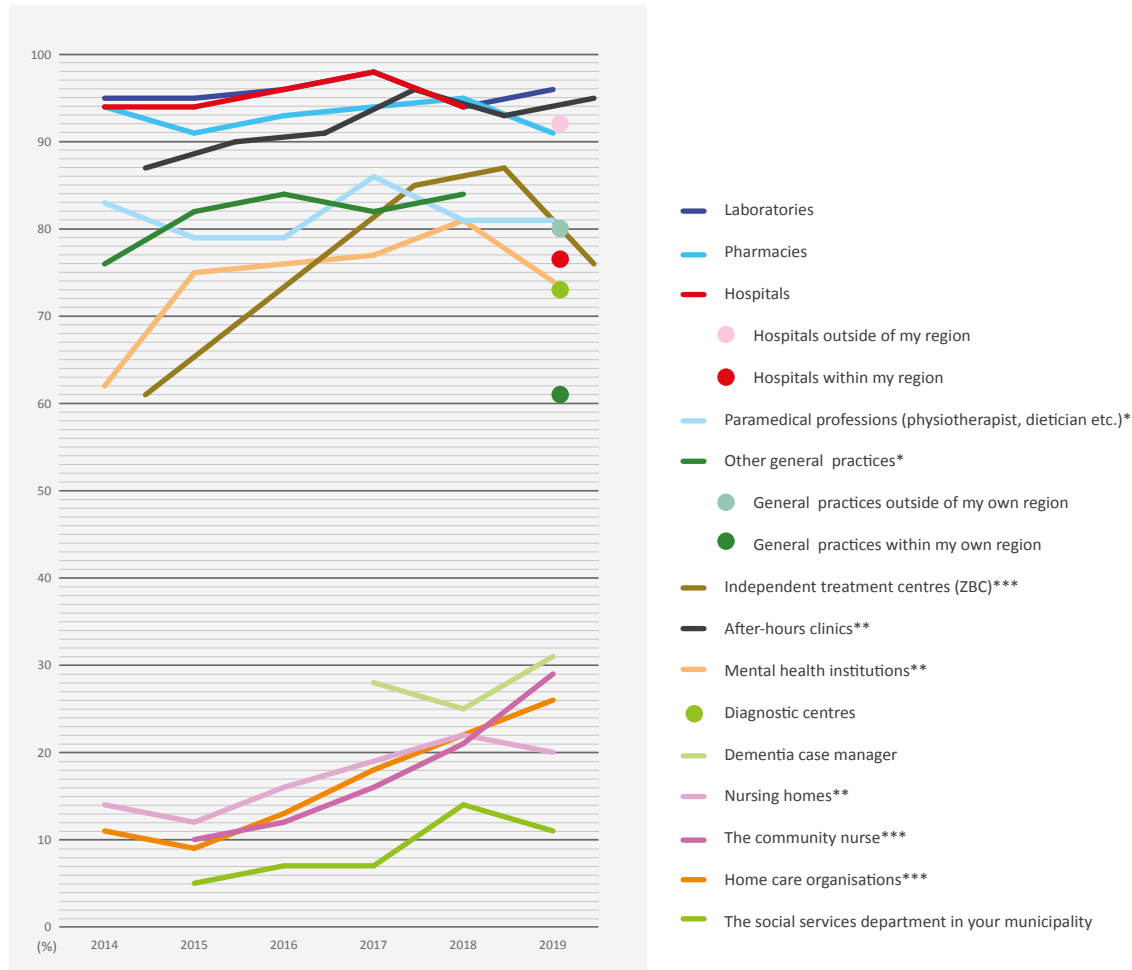


Figure 5.2
General practitioners
 Percentage whose practice uses a system for standardised electronic information exchange with other healthcare providers/healthcare institutions; in 2014-2019.
 * $p \leq 0.05$;
 ** $p \leq 0.01$;
 *** $p \leq 0.001$



Elderly care nurses use electronic record-keeping more often

Almost all general practice nurses and hospital nurses primarily use electronic records to enter data. In elderly care this percentage went from 31 percent in 2014 to 83 percent in 2019 (Figure 5.5). In addition, 58 percent of the elderly care nurses indicate that their organisation uses electronic data exchange with other healthcare providers. For hospital nurses this is 79 percent and for general practice nurses it is 84 percent (Tables 5.1 and 5.2).

Approximately three quarter of the general practitioners use teleconsultations

Almost three quarter of the general practitioners had the option in 2019 of using teleconsultations (Figure 5.6). 40 percent of the medical specialists has no plans yet for implementing teleconsultations with general practitioners, but they are open to it. 43 percent of the medical specialists are interested in teleconsultations with third-line medical specialists (Tables 5.15 and 5.16). More than a quarter of the general practitioners and 11 percent of the medical specialists can use chat apps for mobile phones or tablets to coordinate healthcare with other healthcare providers outside of the practice or healthcare organisation. Almost a quarter of the general practitioners and 39 percent of the medical specialists don't have this option yet but are open to it (Tables 5.15 and 5.16).

Figure 5.3
Medical specialists
Percentage of information they can/would like to receive via electronic data exchange; in 2019

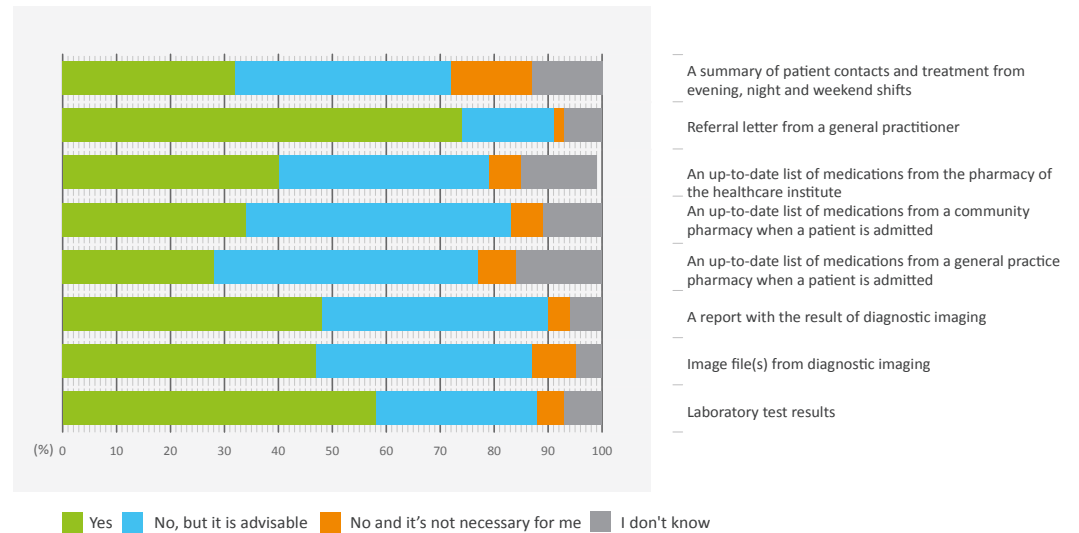
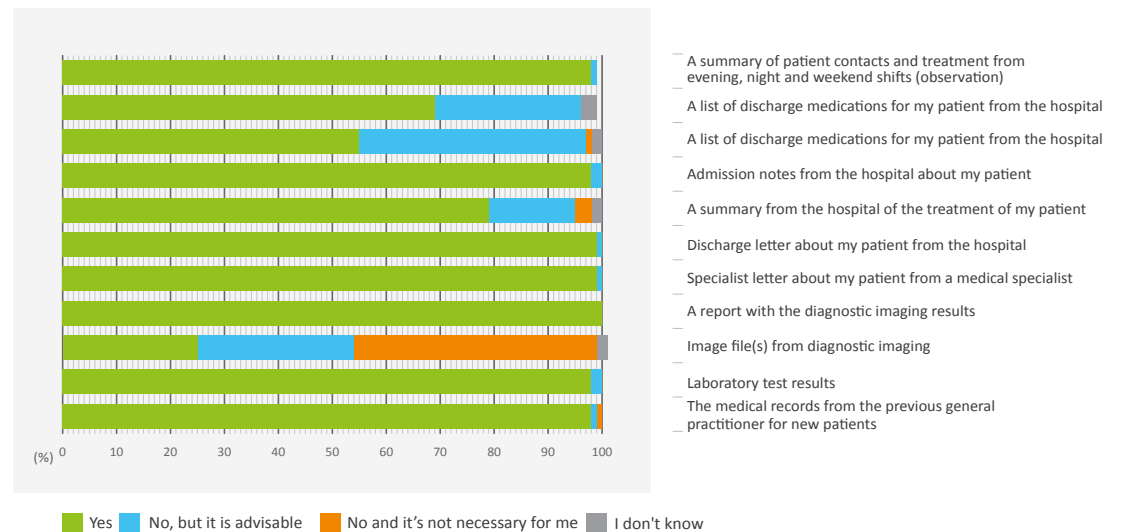


Figure 5.4
General practitioners
Percentage of information they can/would like to receive via electronic data exchange; in 2019



The use of decision support software is not widespread among doctors

A quarter of the general practitioners and less than ten percent of the medical specialists indicate that they have access to decision support software in their practice/department (Figure 5.6). More than one third of general practitioners and almost half of the medical specialists think that decision support software will improve the quality of healthcare. More than half of the general practitioners and 66 percent of the medical specialists can see themselves following the suggestions of the decision support software. Furthermore, half of the general practitioners and half of the medical specialists are willing to code data in a standardised format so the data can be reused (Figure 5.7) (Tables 5.15-5.18).

Figure 5.5
Elderly care nurses
 Patient record-keeping method; in 2014 and 2016-2019.
 *** p ≤ 0.001

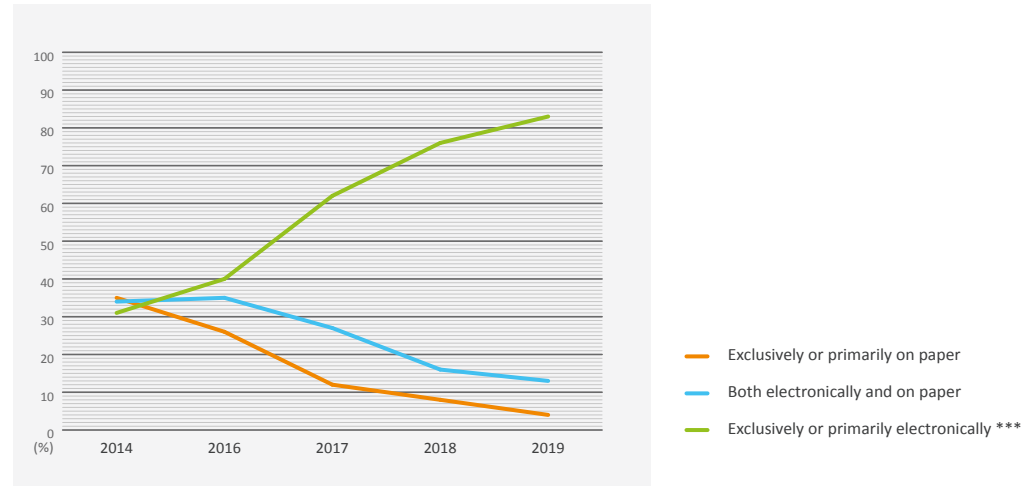


Figure 5.6
General practitioners
 Possible eHealth applications in your practice; in 2019

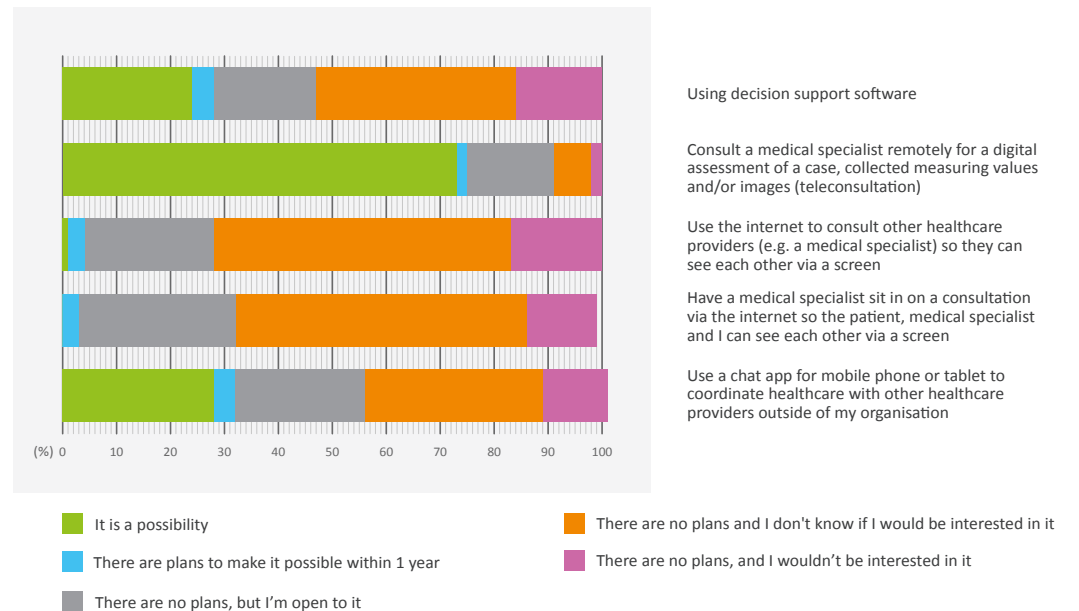


Figure 5.7a

General practitioners
Experiences or expectations with regard to decision support software; in 2019

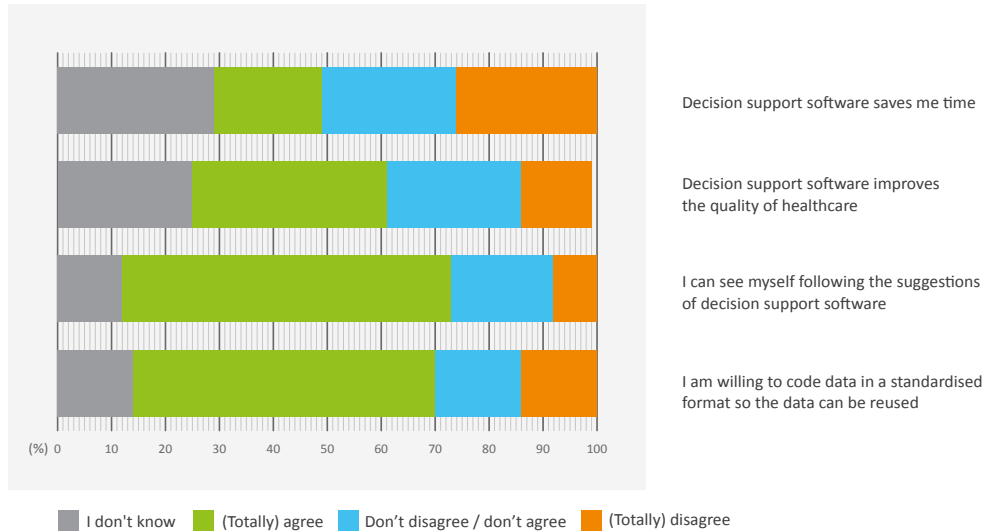
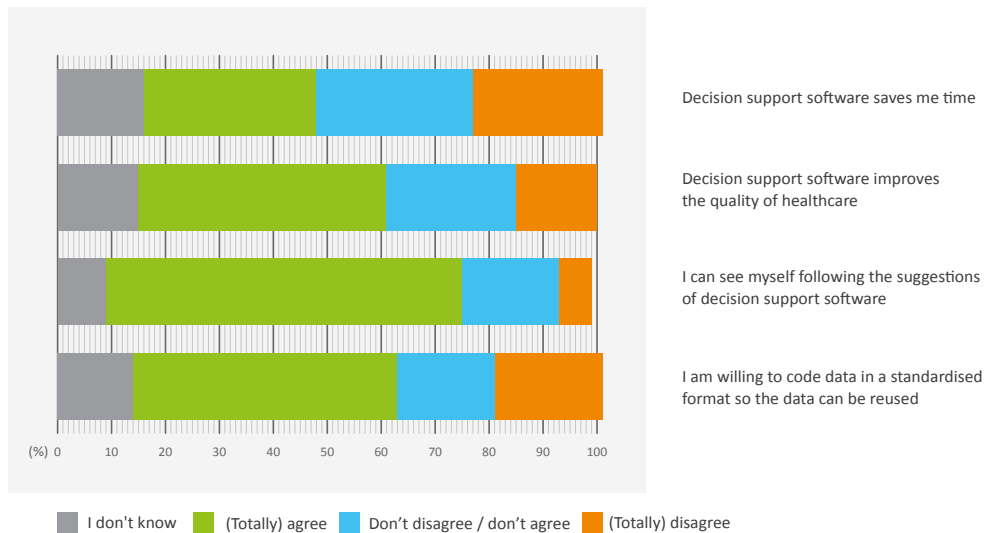


Figure 5.7b

Medical specialists
Experiences or expectations with regard to decision support software; in 2019



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This theme annex is part of the eHealth-monitor 2019.
The other parts are: the research report,
4 other theme discussions, the tables annex and the infographic.

These documents can be downloaded from www.nictiz.nl and www.nivel.nl

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