Between the spark and the flame

2015 eHealth monitor

Better healthcare
through better IT

Nictiz

nivel

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This is a partial translation of the 2015 edition of the Dutch yearly national report on eHealth, the 'eHealth monitor'. It is a translation of the Management Summary and the Conclusions and Recommendations chapter. The full report is available in the Dutch language.

Summary

Dutch healthcare is hard at work on eHealth, as we can see in this third edition of the eHealth monitor. Over one third of general practitioners, over half of medical specialists and two thirds of psychiatrists state that pilots have been run with an eHealth application in their practice or healthcare centre in the past year (see 'Pilots'). What is striking is that in over 70% of cases, use of the eHealth application was continued after the trial period as well. Nevertheless, the results of all these local efforts are not yet visible on a country-wide level.

Over 90% of doctors list examples of eHealth that they find promising. Doctors listed a broad range of eHealth applications as pilots and good examples. This monitor focuses on the things in which doctors see added value (also see 'New in this monitor').

Use of eHealth among nurses is on the rise
Among nurses, use of the internet for looking up information, for example, or showing patients information, increased. The use of apps for care and health increased in this group as well. The use of telecare (communication via a video connection) and medicine dispensers among nurses increased in care in particular - this almost doubled, to around one fifth of the nurses (use by nurses themselves or by others at the healthcare centre). This contributes to the Minister of Health, Welfare and Sport (VWS)'s objective to give people with care and support at home the option to contact healthcare providers via a monitor.

eHealth is the use of new information and communication technologies, internet technology in particular, to support or improve health and healthcare.

The eHealth monitor is a form of continued research in which Nictiz and NIVEL map the availability and use of eHealth in Netherlands every year. In doing so, they also look at obstacles, effects and developments through time.

The results of this monitor are based on questionnaires held among 728 healthcare users, 844 doctors and 910 nurses. Six heads of healthcare organisations and ten healthcare providers took part in an online focus group as well.

Pilots

Examples of eHealth applications for which pilots were run in doctor's practices or healthcare centres:
- electronic patient records (mentioned mostly by medical specialists);
- electronic prescription systems for medication;
- e-consults;
- making appointments and requesting repeat prescriptions online;
- online support programmes for psychological problems.

New in this monitor

In this third edition of the eHealth monitor, we discuss the added value for healthcare users and providers. We asked more detailed questions about the needs of healthcare users and caregivers as well as in which types of eHealth applications they see added value for their situations.

We did the same for doctors. We looked at the IT problems they experience in their work and at the eHealth applications which they expect their practice or healthcare centre to focus on in the coming year. To find out what is happening among doctors, we also asked whether they took part in any pilots over the past year. In addition, we looked at general practitioners' use of new funding regulations for eHealth.

To find out more on the use of eHealth in mental healthcare, we asked healthcare users who were in contact with mental healthcare providers about the use of online treatments.

Healthcare users' needs offer openings for eHealth

In this eHealth monitor, we looked at the problems that healthcare users experience in further detail. Two things are striking:
- Two fifths of healthcare users is bothered by having to leave the house to talk to a healthcare provider and want a solution.
- One fourth of healthcare users is bothered by the fact that they cannot verify the information entered in the record by the healthcare provider to make sure it is accurate.

Both problems offer openings for eHealth applications.

Many healthcare users and caregivers want online services

Healthcare users and caregivers have similar wishes in terms of eHealth. Both mainly see the advantages of the option to look up information about care and health on a website, request prescriptions or make appointments online, or ask questions via e-mail or a website. To them, this seems like it would be easier and save time. One third of healthcare users would like to have insight into their own medical information.

The interest in online services does correlate with age and education. Younger people often see the benefit of such options more than older people do, and higher educated people do so more than lower educated people. That means that there is also a group of patients for whom the traditional method of contact with healthcare providers will remain important.

Chronically ill patients see the advantages of keeping track of their own health information on a website or app more often than non-chronically ill patients.

Use of online services among healthcare users does not continue to increase

At this point, there are still relatively few healthcare users who know about the online possibilities offered by their general practitioner, medical specialist or physical therapist. The most widely known option is requesting repeat prescriptions from general practitioners online. In 2015, three out of ten healthcare users knew about this option and 15% actually made use of it.
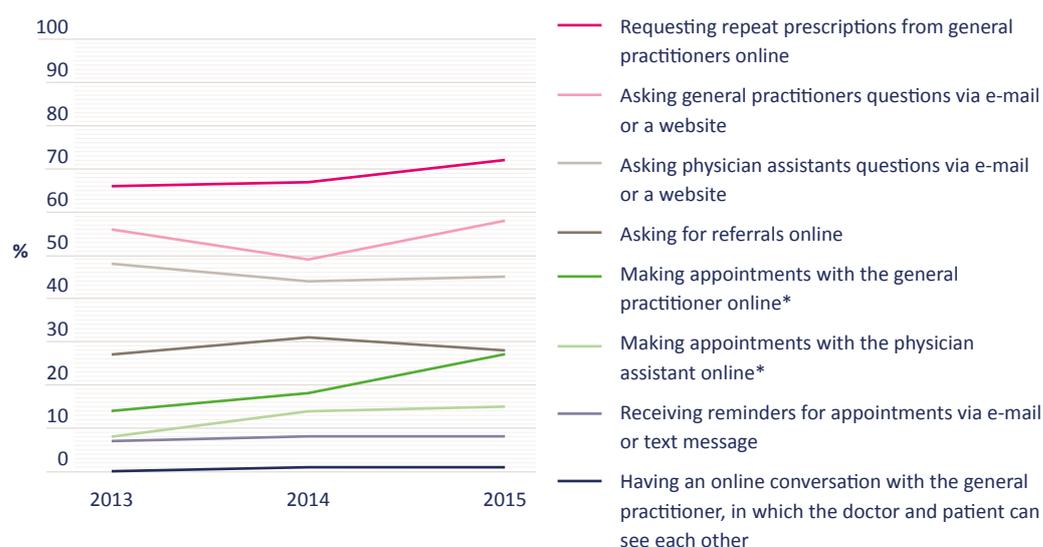
From 2013 to 2014, healthcare users mainly became more familiar with online services offered by general practitioners. This includes such things as e-consults (asking questions online), making appointments online and requesting repeat prescriptions. In 2015, that familiarity did not increase further. The use of these services is still at no more than one tenth of healthcare users, with the exception of requesting repeat prescriptions from general practitioners and e-consults with mental healthcare providers. At the same time, around two in five healthcare users do indicate that they would be interested in such services.

Around half of general practitioners and three out of ten medical specialists say that they tell patients about online possibilities during a consult. Apparently, this has been insufficient in getting healthcare users familiar with these possibilities.

Increase in offered online services for appointments and reminders, but not in other online services

Seen over the long term (compared to 2013), the offered online services for general practitioners' patient appointments increased. There is no apparent increase in other services, such as asking questions via e-mail or a website (e-consult) or requesting repeat prescriptions online, but the offered services are at a higher level. See figure 1. Medical specialists did send more reminders for appointments via text message or e-mail, but online appointments, repeat prescriptions and e-consults did not increase.

Figure 1:
The percentage of general practitioners who offer patients the listed options for online contact, from 2013 to 2015 (n=171-396).

Requesting repeat prescriptions from general practitioners online

Asking general practitioners questions via e-mail or a website

Asking physician assistants questions via e-mail or a website

Asking for referrals online

Making appointments with the general practitioner online*

Making appointments with the physician assistant online*

Receiving reminders for appointments via e-mail or text message

Having an online conversation with the general practitioner, in which the doctor and patient can see each other

* Significant rise in 2015 as compared to 2013 (differences between 2013 and 2014 and between 2014 and 2015 are not significant)

Treatment in primary mental healthcare not yet abundant online

Last year, healthcare users who contacted a mental healthcare provider (usually a mental health nurse practitioner or psychologist) had few options for receiving (partially) online treatment. General practitioners, who have come to play a larger role in mental healthcare, do state such applications as a priority for the future.

More people keep track of their own health information

What is striking is that the group of people who kept track of their physical activity with things like a stepcounter increased to one fifth of healthcare users. More people also keep track of information on their doctor's visits or treatments online or in a mobile app as well. This is, however, less than one tenth of healthcare users. And yet, the latter is an interesting development, seeing the plea of patient federation NPCF (NPCF, 2015) and the Council for Public Health and Health Care[1] (RVZ, 2014) for a personal health record (*persoonlijk gezondheidsdossier,* or PGD). The RVZ also recently pointed out the rise of consumer eHealth (RVZ, 2015). This is a form of eHealth offered directly to consumers without intervention by the healthcare provider. This includes things such as self-measurement equipment or apps for keeping track of your own medical information.

Doctors are already experiencing the benefits of online services and exchange of information

Three fourths of psychiatrists, two thirds of general practitioners and almost half of the medical specialists already claim to experience positive effects of online contact with patients.

They list effects such as the patients being pleased with it, the fact that it improves the accessibility of the practice or department, and the fact that it improves efficiency of healthcare provision. General practitioners indicated that it unburdens telephone communications among physician assistants as well. Over nine out of ten general practitioners and nearly nine out of ten medical specialists experience positive effects of electronically exchanging patient information. They say that it improves the quality and efficiency of healthcare provision and that patient information is available more quickly, is more up to date and more complete.

Doctors opt for own records, information exchange and online services

This year, general practitioners named around 30 types of eHealth applications and around 40 specific eHealth products as good examples, such as thuisarts.nl, the referral service Zorgdomein ('Care Domain') and the self-triage app *Moet ik naar de dokter* ('Should I go to the doctor?'). The wide range of different eHealth applications complicates the selection process for healthcare centres and providers. Nevertheless, doctors expect some applications to receive more attention than others in the coming year.

Many doctors expect their practice or healthcare centre to invest in or put effort into specific eHealth applications this year. The top 3 among general practitioners:
• online appointments for patients;
• electronically exchanging patient information with other healthcare providers;
• online support programmes for patients with psychological symptoms.

[1]   Now merged into the Council for Public Health and Society (RVenS).

The top 3 among medical specialists:
- electronically exchanging patient information with other healthcare providers;
- option for patients to find online information about the department;
- electronic record keeping.

Of course, the use of eHealth in this is not a goal in itself. Doctors believe it will add to the accessibility of the practice (online appointments), patients' ability to cope for themselves (online support programmes) and patient safety and saving time (electronically exchanging patient information).

Healthcare IT must be better integrated, outside the healthcare centre as well
Implementing new applications is easier when the basic provisions are taken care of. But doctors face other challenges when it comes to using IT in their work. The two most important problems for doctors are:
- insufficient options for sharing patient information outside of the doctor's own practice or healthcare centre;
- insufficient integration of IT services with their own information system.

Doctors also encounter problems with the user-friend-liness, functionality and continuity of their own IT systems. Some doctors also say that they have not seen enough of the desired benefits of IT and that IT takes up too much time, at the expense of patient care. Points of attention are better internal cohesion of the IT environment, more options for information exchange outside doctors' own healthcare centres and more user-friendliness for healthcare providers. That implies

that in practice multiple IT issues compete for attention and that correct implementation of eHealth applications in the existing environment can be complex. As in 2014, we have seen that eHealth isn't always a matter of plug-and-play. At the same time, the fact that in many cases after a pilot the use of an eHealth application is continued, shows that it is possible to reach workable solutions, despite challenges in IT.

Patient's online access to their health records is more important to healthcare users than doctors
Healthcare users and doctors both value applications such as online appointments. However, healthcare users have different priorities than doctors. Being able to see their health records online is important to them. Doctors put more priority on getting their own electronic records in order and exchanging information with colleagues.

A number of hospitals including Medical Centre Haag-landen, the Radboud University Medical Center and University Medical Center Utrecht have now facilitated electronic access to medical records for patients. However, as yet these are still just exceptions. Over the past year, less than 5% of healthcare users accessed their health records online and a clear majority of healthcare users does not know that this is possible. Around two fifths of healthcare users would like to do so (for information from their general practitioner or medical specialist). Online access to health records for patients is one of the three objectives that were formulated by the Minister of Health, Welfare and Sport (VWS) in 2014.

This monitor shows that patients being able to access their health records online at healthcare centres and providers has a lower priority than other issues, such as

electronically exchanging information with other healthcare providers.

Furthermore, doctors' views seem to differ when it comes to online access. Around two fifths are proponents of online access. Proponents are of the opinion that it can increase the responsibility and involvement of the patient, promote openness and trust and boost control and self-management. But roughly half of doctors are concerned about patients worrying unnecessarily, misunderstandings, security leaks, a higher workload due to answering questions and an undesired influence on methods of record keeping. Proponents and opponents of online access are not diametrically opposed, however. Both groups mention many of the same preconditions for online access, such as the right level of security, sufficient explanations to patients and clear demarcations of what is and what is not made available (such as keeping the doctor's personal work notes confidential). A professional guideline could provide a possible solution to this.

Some obstacles are persistent
More than eight of out ten general practitioners encounter obstacles in online contact with patients. This has increased as compared to 2014. Over two thirds of medical specialists and almost nine out of ten psychiatrists encounter obstacles in this as well.

For medical specialists, the top 3 obstacles encountered in the past year has remained the same:
• lack of financial compensation for the time needed;
• lack of sufficiently secured systems;
• lack of clarity on laws and regulations.

The top 3 among general practitioners remained the same as well:
• lack of financial compensation for the time needed;
• online communications are not sufficiently clear;
• online contact (such as e-consults and e-mail) is less efficient than face-to-face contact and contact over the phone.

These last two arguments have increased in importance among medical specialists over the past year.

Though general practitioners experience lack of financial compensation as a chronic problem, there were relatively few general practitioners in May 2015 who'd reached agreements with insurers on compensations for eHealth via the 'outcome based reimbursement and healthcare modernisation' segment of the new reimbursement system. We cannot account for what caused this on the basis of this study.

Six out of ten general practitioners, over two thirds of medical specialists and three in four psychiatrists encounter obstacles in exchanging information. The most important aspect for doctors in 2014 and 2015 was that systems are poorly linked or cannot be linked at all.

Up-to-date medication overviews remain a point of attention
As in 2013 and 2014, there is still room for improvement in the extent to which general practitioners and medical specialists are able to receive up-to-date medication overviews. According to the Health Care Inspectorate (IGZ), this not only complicates the healthcare process, but also has consequences for patient safety (IGZ, 2011). Despite the

fact that doctors have called for improvement for some time, this issue has not measurably improved.

Though three fourths of general practitioners can receive an overview of the medication given to the patient by public pharmacies, only one third can receive an overview of hospital discharge medication. Nearly six out of ten medical specialists can receive an up-to-date medication overview from hospital pharmacies, but less than one fifth can receive an up-to-date medication overview from public pharmacies when a patient is admitted.

Recommendations

This year's results have led to three recommendations.

Focus on the most promising services

Based on this year and previous years' results, three eHealth applications have proven to be promising, as they have support among those involved:
- online services for healthcare users, including making appointments and requesting repeat prescriptions online, e-consults and online access to patient's own medical information;
- electronic information exchange between healthcare providers;
- telecare (via video communication) and medicine dispensers in care.

The adoption of eHealth involves healthcare providers, healthcare users, health insurance companies, governments and suppliers of products and services. Agreement between these parties on the focus areas and coordination of efforts helps to focus the collective energy on the most promising applications. Realising these three promising services will also serve to pave the way for new innovations.

Towards a collective and systematic approach of system obstacles

Doctors report financial, legal and technical obstacles year after year. In their perception, such system obstacles still have not been sufficiently dealt with. Seeing as these obstacles are often above the level of healthcare centres, they require a systematic and coordinated approach. The government cannot solve all the problems, but can take the lead in coordinating work on these obstacles with other parties in the field of healthcare.

Even for each of the three promising services, there are challenges in which a collective approach can help:
- In the online services, we have now seen - for the third time in a row - that many healthcare users do not know about the availability of these services.
- When it comes to electronic information exchange, not being able to adequately share up-to-date medication information is the major bottleneck for patient safety. We have repeatedly seen that doctors have trouble being able to receive medication overviews. Both older and recent reports of the Dutch Health Care Inspectorate (IGZ, 2011; IGZ, 2015) state that information exchange between healthcare providers not being in order results in major risks for the patient. This especially applies to medication. Information exchange between cure and care also leaves much to be desired.
- In terms of eHealth in care, the 2015 intermediate reports of the eHealth monitor (Krijgsman et al., 2015) showed that few people with care and support at home have access to applications such as telecare and medicine dispensers.

Some of those patients also have no need for that kind of healthcare.

Various tools can play a role in tackling obstacles:
- public information campaigns;
- clear and accessible guidelines and assistance. This can include legislation, funding, but also content-related guidelines, such as preconditions for unlocking patient information;
- promoting promising pilots;
- tools for ensuring commitment and reaching binding agreements.

Pre-sorting on the increasing importance of consumer eHealth
This year, we have seen an increase in healthcare users who keep track of their own information on doctor's visits or treatments. More people also keep track of their physical activity. The NPCF (NPCF, 2015) and RVZ (RVZ, 2014) advocate for a personal health record (*persoonlijke gezondheidsdossier*) or PGD. The RVZ has pointed out the increasing importance of consumer eHealth (RVZ, 2015). The role of the healthcare user as a source and recipient of medical information is likely to become more important. But possibilities in electronic information sharing between healthcare users and healthcare providers are still limited.

We recommend further reinforcing these options. This is necessary to realise the online access to medical records that healthcare users want and to increase options for monitoring patient health from a distance. Enabling the patient to share their medical information electronically could potentially also be a way to better facilitate information exchange between healthcare providers, in

the cases where this is currently difficult to realise. An additional benefit could be that as the electronic sharing of information between healthcare users and providers becomes more self-evident, both parties' eHealth priorities could converge a bit more.

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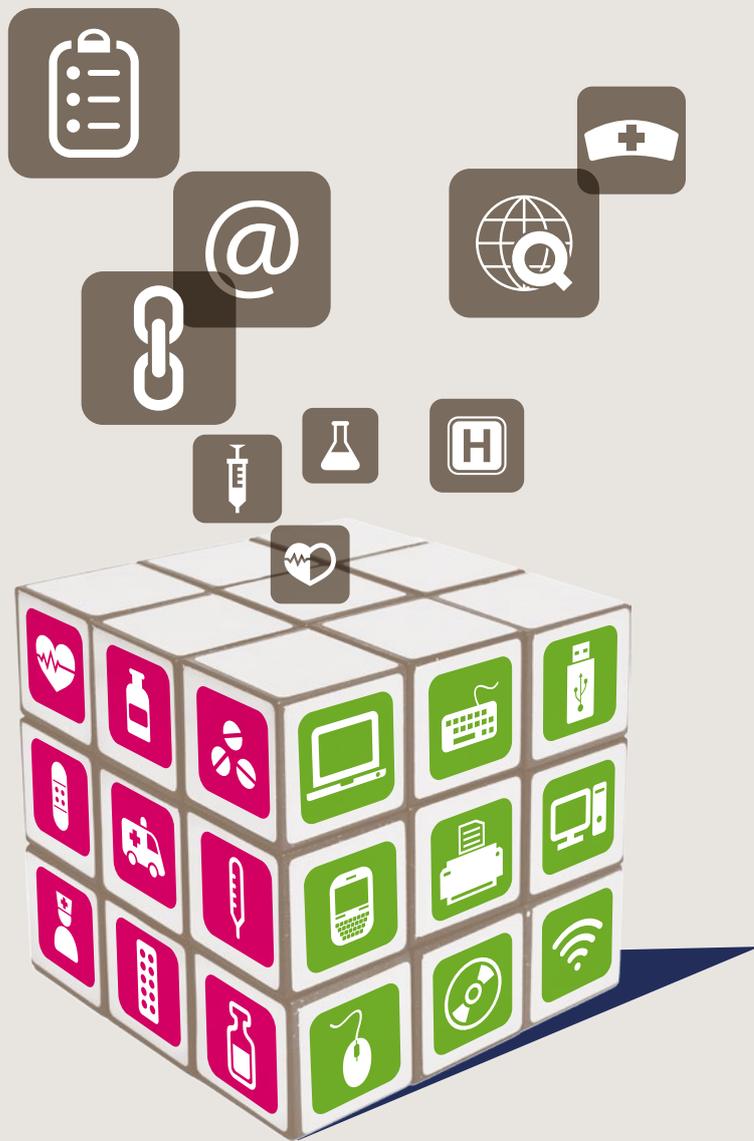
Conclusions and Recommendations

The central question of this eHealth monitor is: 'What developments in the use of eHealth are taking place in the Netherlands?' A set of subquestions was formulated in the introduction to answer this question. This chapter provides an answer covering the main points of these research questions. We conclude this chapter with recommendations.

1.1 Availability and use of eHealth applications

In this paragraph, we will provide answers to the first three research questions:

1. To what extent are eHealth applications available to healthcare users and providers?
2. To what extent do they make use of the eHealth applications that they have at their disposal?
3. What developments over time do we see when it comes to availability and use of eHealth?

As in previous years, there are major differences between the eHealth applications in both supply and use. To answer the research questions, we will therefore look at the different application areas of eHealth.

1.1.1 Ease and service for healthcare users

Many eHealth applications in the category 'ease and service for healthcare users' are geared towards a different organisation of the contact between healthcare providers and healthcare users (such as making appointments online).

As in 2013 and 2014, we see a discrepancy in these applications between the possibilities (listed by doctors)

and use by healthcare users. For example, the majority of general practitioners claim to offer the option to request repeat prescriptions online and ask questions via e-mail or on their website. Furthermore, the percentage of general practitioners providing the option to make appointments online increased to over a quarter from 2014 to 2015. Less medical specialists offer these options than general practitioners do. One third indicated that they offer the option to ask questions via e-mail or on their websites, and over one fifth say that they offer the option to make appointments online.

However, a large part of healthcare users (47%-71%) said they do not know whether their general practitioner, physical therapist, medical specialist or mental health-care provider offers such online contact options. The use of these options is therefore less than what is offered by doctors. The most frequently used options in 2015 were repeat prescriptions from general practitioners (15%) and asking mental healthcare providers questions via e-mail or on websites (13%); other options are used by a maximum of one in ten healthcare users. A possible explanation for this low use could be the fact that not enough healthcare users know about the available options.

Though the options are not used much, there is a large group of people who would be interested in using them. Over two fifths to half of healthcare users say they would be interested in using the option to make appointments and request repeat prescriptions online. Healthcare users also see the advantages of such options, such as saving time.

There were no changes between 2014 and 2015 in the extent to which healthcare users know about online services offered by their healthcare providers. In the online services offered by doctors, the only options that have increased are the option to make general practitioner appointments online and reminders via text messages or e-mail from medical specialists.

Looking up information online
Healthcare users use the internet a lot to look up information on diseases or treatment (66%) or on nutrition and exercise (49%). The internet is used less for selecting a healthcare provider or healthcare centre (25%).

1.1.2 Self-management and online treatment
There are many eHealth possibilities that can help healthcare users gain more control over their health. Many of these applications were used by no more than one tenth of healthcare users over the past year. The use of some of these applications is on the rise this year as compared to last year.

Patients measuring and keeping information
Nearly one fifth of healthcare users (19%) used a mobile app or equipment to track their physical activity, such as a stepcounter. This was mainly among healthcare

users who exercise at least once a month. The use of these mobile apps and equipment has increased since 2014. Over one tenth tracked their own information online on nutrition and/or diet (11%) or measured their physiological data (such as weight or blood pressure) themselves and kept track of it online or with an app (13%). Other forms of self-tracking information were used by less than one in ten healthcare users. An example is keeping track of information on doctor's visits or treatments (7%, which is an increase as compared to 2014). Around one fifth of healthcare users say they would be interested in using such options if applicable and around two fifths are not.

Online treatments
Receiving online treatment is not yet common. Healthcare users made no use of online physical therapy treatment. Of the healthcare users who contacted a mental healthcare provider over the past year, 15% say that an online treatment in combination with live treatment was an option. 6% actually made use of this option. Nearly three in ten psychiatrists say they offer the option to receive online treatment in combination with face-to-face contact. One fourth of the general practitioners have plans to offer online support programmes for psychological symptoms.

1.1.3 Care and support at home
In long-term care, there are various options for attending to patients or clients from a distance. In the eHealth monitor, we will cover supervision techniques, telecare via video communication, the use of medicine dispensers and telemonitoring. Supervision techniques are the most widely used, such as movement sensors or fall detection. This is mainly used in

care: almost half of the nurses and attendants in this sector said that they or others in their healthcare centre made use of these techniques.

The use of telecare (via video communication) among nurses[1] working in care (their own use or use by the healthcare centre they work at) increased from over one tenth (12%) to over one fifth (23%).
Nearly one in five nurses and attendants working in care used medicine dispensers in healthcare centres (19%). This too is an increase as compared to 2014 (11%). This year, we did not ask for how many clients video calling and medicine dispensers are used.

General practitioners mainly use telemonitoring for diabetes (11%) and to a lesser extent in cases of heart failure and COPD. In the majority of the cases, this has remained limited to a maximum of one tenth of the patients for whom this could be beneficial. Medical specialists use telemonitoring the most for patients with diabetes or heart failure. Around 11% of medical specialists use telemonitoring, in which we must mention that half of the medical specialists indicated that telemonitoring is not relevant for their specialty. Of the nurses, one fifth (20%) say that telemonitoring is used by them or by the healthcare centre they work at. This is mostly done by nurses in the cure.

The use of telemonitoring has remained unchanged by nurses and general practitioners since 2014. For medical specialists, a comparison with 2014 was impossible due to reformulated questions.

1.1.4   Unlocking medical information for patients
When it comes to patients being granted online access to their health records by their healthcare providers, options are still relatively limited. General practitioners say that they mainly offer online access to medication information (17%). Online access to other information such as test results and laboratory assessments is offered by no more than one tenth of general practitioners. Of the medical specialists, 11%-15% say they offer online access into things such as diagnoses, prescribed medication, test results and laboratory assessments. This is a slight increase as compared to last year.

Among healthcare users, the percentage that knows that online access is available has remained unchanged since 2014. Less than 5% of healthcare users make use of online access to their health records. However, around half of the users do say they would like to.

1.1.5   Electronic record keeping
Electronic record keeping is still widely used and has remained unchanged as compared to last year.
In 2015, 79% of medical specialists mainly or exclusively kept patient records electronically. In the cure, 89% of nurses say that they or someone else at their healthcare centres use electronic records. In care, this percentage is 50%.

1.1.6   Electronic communication between health-care providers
General practitioners take the lead when it comes to electronic information exchange between healthcare providers. Almost all general practitioners say they use a system for electronic information exchange with pharmacies, medical centres, laboratories and hospitals.

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[1]   We did research among nurses, attendants and nurse practitioners, but limited the scope to nurses due to readability.

Compared to 2014, more general practitioners used a system for standardised and electronic information exchange with mental healthcare centres. The use of the National Switch Point (LSP) of the Association of Healthcare Providers for Healthcare Communication (VZVZ) increased among general practitioners.

Of the medical specialists, around half say they use a system for information exchange with general practitioner's practices (51%) or laboratories (50%). There is space and support for further improvement. What is striking is that the majority of medical specialists (63%) say they are unable to exchange information with other hospitals electronically, even though they would like to. There were a few improvements as compared to 2014. For example, more medical specialists were able to send a prescription to a public pharmacy electronically or send an up-to-date medication overview to a general practitioner upon discharging a patient.

What is striking in information exchange is that doctors are not able to exchange medication overviews as often as should be the case: a little over one third of general practitioners say they can receive discharge medication from hospitals electronically and less than one fifth of specialists are able to receive an up-to-date medication overview from a public pharmacy. In both cases, the majority would like to be able to.

Improvement is also possible in the exchange between care and cure. Less than one tenth of doctors use a system for information exchange with home care organisations or nursing homes. General practitioners can also barely exchange information electronically with district nurses or with services for social support

to municipalities. Around six in ten general practitioners would like to be able to.

Another form of electronic communication between healthcare providers is teledermatology. This form of communication is widely spread and used by three fourths of general practitioners. Video consults between doctors, on the other hand, are not yet commonly used. One fifth of medical specialists (20%) say that contact between medical specialists in different healthcare centres is possible.

1.2   Factors and effects that influence use
In this paragraph, we will provide answers to research questions 4 and 5:
4.   Which factors (positively and negatively) influence the use of eHealth by healthcare users and providers?
5.   What effects do healthcare users and providers experience/expect from the use of eHealth applications?

1.2.1 Influencing factors
In the 2014 eHealth monitor, it turned out that the added value experienced by users was an important aspect in adopting eHealth. This year, we therefore researched from which applications healthcare users, caregivers (healthcare users who in this poll indicated that they were caregivers) and healthcare providers expected advantages.

Healthcare users and caregivers seem to mainly expect advantages from online services, such as looking up information about health and care on websites, requesting prescriptions or making appointments online and asking questions via e-mail or on a

website. To them, it seems like it would be easier and save time. Doctors are also positive about online services for patients, as they can lead to things such as improvement of a practice's accessibility and saving time. In addition, electronic record keeping is important to doctors, as they believe it improves patient safety and saves time. They find electronically exchanging information with other healthcare providers, healthcare centres, pharmacies and laboratories important as well, which also comes from a perspective of patient safety and efficiency.

In addition to advantages, healthcare users and providers also encounter obstacles in the use of eHealth. More than eight of out ten general practitioners encounter obstacles in contact with patients online. Over two thirds of medical specialists and almost nine out of ten psychiatrists encounter obstacles in this as well. Obstacles can be financial, legal and technical in nature or concern user experience. These obstacles are comparable to previous years.

A third of healthcare users encounter obstacles in the use of the internet for health and healthcare. These mainly concern privacy issues and the reliability of information on the internet. Some of the users also said they do not find the internet suitable for personal contact. The main obstacles of 2015 are comparable with those encountered in 2014.

The most important obstacle in exchanging information for doctors in 2014 and 2015 was that systems are poorly linked or cannot be linked at all. Furthermore, frequently listed obstacles include the lack of financial compensation for the required time, lack of time to

look into things, lack of adequately secured systems, lack of technical support and the fear of criticism on privacy aspects.

1.2.2 Effects

Doctors are generally positive about eHealth. Over three fourths of psychiatrists, two thirds of general practitioners and almost half of the medical specialists claim to experience positive effects of online contact with patients. Frequently listed effects include the patients being pleased with it, improving the accessibility of the practice or department, and improving the efficiency of healthcare provision. General practitioners indicated that physician assistants receive fewer phone calls.

Almost all doctors are positive about electronically exchanging information as well. They say that it improves the quality and efficiency of healthcare provision and that patient information is available more quickly, is more up to date and is more complete.

1.3 Conclusion

In answering the research questions, a few matters stand out. First of all, we saw that healthcare users have positive expectations of especially online services. On the other hand, they are not very familiar with eHealth applications and they make little use of them. They do actively use the internet to look up information on health and diseases, and have started to keep track of their own health information (such as their physical activity, or their doctor's visits and treatments).

Second, healthcare users and healthcare providers have higher expectations of some eHealth applications than

of others. Healthcare users are mainly interested in looking up information and online services such as electronic consults, online appointments and repeat prescriptions. In addition, electronic health records and electronic information exchange are important to healthcare providers.

And finally, a number of obstacles are mentioned each year. These mainly include obstacles which cannot be solved at a healthcare centre level.
Based on these findings, we have reached three recommendations.

1.4 Recommendations

1.4.1 Focus on the most promising services

Based on this year and previous years' results, we see that a number of eHealth applications have proven to be promising, as they have support among users:

- Online services for healthcare users, including making appointments and requesting repeat prescriptions online, and e-consults. Part of this is also online access to patients' own health records. This need is shared by many healthcare users, but for doctors, the preconditions under which this is to happen are still a matter of discussion;
- Information exchange between healthcare providers. Doctors agree on the positive effects of this service. They say that information exchange would be relevant in many cases in which it is not yet possible.
- A few forms of eHealth in care, such as telecare and medicine dispensers. There is a clear increase in the use of these applications among nurses. A side note to that is that from a recent intermediate poll from the 2015 eHealth monitor among people with care and support at home, we know that these applica-

tions are not widely used by this group (Krijgsman et al., 2015).

The adoption of eHealth involves parties such as healthcare providers, healthcare users, health insurance companies, governments and suppliers of products and services. Agreement between these parties on the focus areas and coordination of efforts can help to focus the collective energy on the most promising applications.

Realising the aforementioned promising services will also serve to pave the way for new innovations. These applications have a relationship with applications that can be found in the objectives of the Ministry of Health, Welfare and Sport (VWS). These objectives were announced in the Letter to Parliament on eHealth and healthcare improvement (Minister and State Secretary of Health, Welfare and Sport 2014). However, they do not have a direct overlap with the applications listed in this paragraph, which is only logical. The three policy objectives are about patients' acess to health records, self-measurement, telemonitoring and access to telecare (via video communication). They are mainly geared towards the effect expected from a policy perspective. Due to this intended effect on self-management possibilities for patients, these applications are encouraged from a policy perspective. That is not to say that these applications are automatically the most promising. They may need more promoting to be able to develop. For example, self-measurements and telemonitoring will remain more important for chronically ill patients than for the larger public. That does not mean, however, that objectives in self-measurement and telemonitoring cannot be useful.

1.4.2 Towards a collective and systematic approach of system obstacles

Doctors list obstacles every year: lack of financial compensation, unclear laws and regulations and lack of adequately secured systems. In their perception, such obstacles still have not been sufficiently dealt with. Seeing as such obstacles are often above the level of healthcare centres, they require a systematic and coordinated approach. The government cannot solve all the problems, but can take the lead in coordinating work on these obstacles with other parties in the field of healthcare.

We face challenges in each of the three promising eHealth applications:

- In the online services, we have now seen - for the third time in a row - that many healthcare users do not know about the availability of these services. Despite interest among healthcare users, these services are still not widely used.
- When it comes to information exchange, not being able to adequately share up-to-date medication information is the major bottleneck for patient safety. We have repeatedly seen that doctors have trouble being able to receive medication overviews. The Inspectie voor de Gezondheidszorg ('Health Care Inspectorate', IGZ) stated in 2011 that information exchange between healthcare providers not being in order results in major risks for the patient (IGZ, 2011). Medication was listed as a specific point for attention in that. Recent inspection reports (IGZ, 2015) on the transfer of information on hospital patients also list medication as a problem area. Furthermore, this monitor has shown that it is difficult for general practitioners and medical specialists to electronically

share information with care facilities.
- In terms of eHealth in care, the 2015 intermediate reports of the eHealth monitor (Krijgsman et al., 2015) showed that few people with care and support at home have access to applications such as telecare and medicine dispensers.

Some of those patients also have no need for that kind of healthcare. This could have to do with patients not being familiar with the options.

Public information campaigns, clear and accessible guidelines and assistance in legislation and financing can play a role in tackling obstacles, as well as promoting promising pilots and tools for ensuring commitment and reaching binding agreements.

1.4.3 Pre-sorting on the increasing importance of consumer eHealth

This year, we have seen an increase in healthcare users who keep track of their own information on doctor's visits or treatments. More people also keep track of their physical activity. Patient federation NPCF and the RVZ advocate for a personal health record (NPCF, July 2015; RVZ, 2014). The RVZ has pointed out the increasing importance of consumer eHealth (RVZ, 2015). In the 2015 eHealth monitor intermediate report, we saw this year that many chronically ill patients and vulnerable seniors do self-measurements, but are not well able to electronically share this information with their healthcare providers (Krijgsman et al., 2015). The 2015 eHealth monitor shows that chronically ill patients also see personal benefits in keeping track of their own health information online or with an app.
The role of the healthcare user as a recipient or as a

source of medical information is expected to become more important. But possibilities in electronic information sharing between healthcare users and healthcare providers are still limited.

We recommend further reinforcing these options. This is necessary to realise the access to medical records that healthcare users want and to increase options for telemonitoring. It could potentially also be a way to better facilitate information exchange between healthcare providers in the cases that have trouble getting established so far. Electronically sharing medical information via the patient also offers possibilities for patients to gain more control over sharing their medical information with healthcare providers.

An additional benefit could be that as the electronic sharing of information between healthcare users and providers becomes more self-evident, both parties' eHealth priorities could converge a bit more.

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