



eHealth-monitor

# Consciously choose eHealth

**Summary  
eHealth-monitor 2017**

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# A brief outline of the eHealth-monitor 2017

## Key results, considerations and recommendations

The first eHealth-monitor was published five years ago. In the meantime, the development of eHealth has not stood still. During the past few years, major steps have been taken in technological developments and increased availability of eHealth. Standards for information exchange and data recording are applied more often for adequate data transfer. More research on the effects of eHealth applications becomes available. In addition, in the area of financing, new options are considered and used as well.

eHealth (refer to box 1) offers interesting opportunities for improving the quality of healthcare, quality of life for patients, and the efficiency and

## Box 1: eHealth and the eHealth-monitor

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

The eHealth-monitor is a form of annual research in which Nictiz and NIVEL map the availability and use of eHealth in the Netherlands. In addition, incentives, obstacles, effects and developments through time are looked into.

The results of this monitor are based on questionnaires filled out by 741 members of the Consumenten Panel Gezondheidszorg, 3,040 members of the Nationaal Panel Chronisch Zieken en Gehandicapten, 536 doctors, 712 nurses and 225 mental health nurse practitioners and on discussions held during a workshop day with eleven participants from the Consumenten Panel Gezondheidszorg.

In 2016, the eHealth Objectives, set by the Ministry of Health, Welfare and Sport in 2014, were described separately in a Report of Objectives<sup>1</sup>. This year, we opted to include the findings relating to these goals in this report. These findings are discussed in the respective chapters and in this summary.

1. Krijgsman, J., Peeters, J., Waverijn, G., Van Lettow, B., Van der Hoek, L., De Jong, J., Friele R., Van Gennip, L. (2016). 'Because I think it is important to take proper care of myself'. 2016 Report on eHealth Objectives. The Hague & Utrecht: Nictiz & NIVEL.

continuity of healthcare. Digital information exchange between individual healthcare professionals and with patients is very significant to the precision and completeness of patient records. In addition, digital support can help, in the area of medication, to prevent errors and facilitate therapy loyalty. Technology supports frail elderly in living independently, e.g. by means of sensors, digital key cabinets and GPS trackers. Furthermore, countless applications and online coaches are available to guide healthcare users<sup>2</sup> to a healthier lifestyle. 'Convenience services' can make healthcare more accessible to healthcare users: video calling applications bring consults closer to home - literally.

Now we need to move from supply to use: upscaling eHealth applications remains a challenge. Five years after the first monitor, we are getting a better and better picture of why use is still not in line with supply and why applications often are not upscaled. For example, a lot of uncertainty and unfamiliarity around eHealth remains. Healthcare users are often unaware of the available services and possibilities offered by their healthcare professionals, who in turn experience unclarity on how to use applications.

Focus is essential in creating clarity. The number of possibilities in the area of eHealth is large and these numbers continue to increase. As long as the why, the goal and for whom eHealth is used is unspecified, it remains difficult to determine whether an implementation is a 'success' or not. The eHealth-monitor 2016 showed that eHealth calls for a societal innovation. A change-based approach is needed. And as is the case in every change process, clarity and agreement on the reason to change are important in successfully implementing eHealth applications.

For the final adoption of eHealth, it seems that the actual use provides added value. This study shows that healthcare professionals and healthcare users with experience with eHealth applications are more positive

than those that have not (yet) used the application. Gaining experience and learning from good practices can contribute to experiencing the real added value.

This summary describes the most important results, conclusions, and recommendations from the eHealth-monitor 2017. We also discuss the situation regarding the three eHealth Objectives set by the Ministry of Health, Welfare and Sport in 2014.

2. In this report, 'healthcare users' refers to every citizen residing in the Netherlands with access to healthcare. Not all healthcare users are patients. In this report, 'patients' refers to people receiving treatment from a healthcare professional.

# 2017 key results

## Ease and service for healthcare users

### Online contact often still provokes questions

Most doctors regard online contact between doctor and patient as positive: they regard it as a good addition to – but rarely as a replacement of – standard forms of contact. The available online contact applications offered by doctors has increased. Currently, only few general practitioners and medical specialists believe that online contact is suitable for the majority of their patients.

Healthcare users have neutral to positive feelings about online contact. The familiarity with the possibilities of online contact is on the rise in this group. Nearly half of healthcare users say they would be interested in using most applications. However, the actual use of applications supporting online contact does not always increase. This year again, results show that many healthcare users are not aware of the availability. Fewer than one in three healthcare users indicate that the healthcare professional has told them about the possibilities of online contact.

Online contact often still provokes questions among

both doctors and healthcare users. For example, part of the group of doctors is not convinced that online contact is secure. Some of the healthcare users likewise do not regard online contact as secure, or are not sure it will provide them with sufficient information.

### Uncertainty about the use of an e-consult

Among doctors, there is a need for more clarity on the e-consult. Especially among medical specialists, there is uncertainty on the use, compensations, rules and guidelines. These results are not so much present among general practitioners. Possibly, they are sufficiently equipped with existing guidelines and checklists. However, the majority of general practitioners does indicate that the compensation is insufficient or that they do not know whether it is sufficient. The e-consult provokes questions among both groups of doctors on what is and what is not allowed, and a quarter of the general practitioners and one third of the medical specialists does not feel competent to use an e-consult. Over half of the doctors believe that many of their patients do not want to make use of an e-consult or say they do not know.

3. This is a digital environment where healthcare users can not only view their medical information and possibly add data, but also, for example, make an appointment online or ask a healthcare professional questions.

Healthcare users see both positive and negative aspects to the e-consult. For example, they believe that with an e-consult, they would be better able to think about their question, but they also expect to receive less personal attention. Furthermore, the workshop day (refer to box 1) showed that healthcare users believe that the use of the e-consult would depend on the context. For example, they seem to mainly see added value in the use of an e-consult when asking simple questions.

Healthcare users want more clarity on the e-consult: how it works exactly, the reliability, and the kinds of questions they can ask. Among both healthcare users and doctors alike, we observe that those that have experience with the e-consult are more positive about it than those without any experience.

### Patient access to medical information

#### Increased patient access among medical specialists and nurses

Among medical specialists, an increase is found in possibilities of patient access to various parts of patient records. Among general practitioners, we observe a negligible increase. In recent years, the number of general practitioners who indicate not knowing whether they find patient access desirable or not, or that do not have an opinion on this, has increased.

In elderly care, we observe a positive development regarding patient access. Over four in ten nurses and caregivers in this sector works with a digital patient portal<sup>3</sup>. This number has doubled as compared to last year. In addition, both in hospital care and general practitioner care, nurses work with a patient portal a lot more than last year.

#### Chronically ill patients often see the added value of patient access after experiencing it

The percentage of healthcare users indicating that they have online access to their medical information from their medical specialist increased to 13% in 2017. The number of healthcare users that indicated they have online access to their information from the general practitioner did not increase in recent years, ranging between 3%-5%. In 2017, many healthcare users do not know whether their medical specialist or general practitioner offer patient access.

Nearly a quarter of chronically ill patients indicates that their general practitioner offered online access to prescribed medication. The majority of the group that has access to medical information finds this useful. Especially because it provides more insight and it is easier to check information. Four in ten doctors that do not presently offer patient access would like to provide online access to medication overviews.

### Self-management and online treatment

#### Increase in number of self-measurements

In 2017, about half of chronically ill patients and frail elderly independently measured their own health values, particularly weight, blood pressure, and blood sugar levels. This has increased as compared to last year. Health values are also recorded more often than in previous years. Less than one tenth of chronically ill patients and frail elderly indicates that they would like to perform self-measurements, but is unable to do so. An equally small number indicates not to perform self-measurements, but that they would like to do so.

Of the chronically ill patients, 4% use a personal health record (PHR). Nearly a quarter indicates that they would like to use this and over a third says they do not know whether they want to use a PHR.

#### Mental health nurse practitioners need decision support and research on the effects of eMental Health

In 2017, eMental Health is used by almost all mental health nurse practitioners for some of their patients. Though mental health nurse practitioners are generally satisfied about the use of eMental Health, they find that what is currently available is not suitable for every patient. Among other things, they indicate that available eMental Health is not in line with the education level, cultural background, or digital skills of patients.

Mental health nurse practitioners also say they need decision support and research on the effects of eMental Health. They believe assistance when choosing would help decide which form of eMental Health to use for whom. Though some of the mental health nurse practitioners indicate that eMental Health is part of their work

processes and that they receive support in using eMental Health, guidelines or a vision derived from practice seem to be lacking in many cases. There is often a lot of unclarity on the rules for compensation, as well.

### Remote guidance and support

#### **Doctors see added value in telemonitoring, especially for diabetes and heart failure**

Compared to previous years, telemonitoring is used to a similar extent according to healthcare professionals and healthcare users. Nearly half of healthcare professionals does believe that the use of telemonitoring is relevant. Doctors mainly observe added value among patients with diabetes and heart failure – the latter applies particularly to medical specialists. Around one in five chronically ill patients and frail elderly also say that telemonitoring is desirable. Around one third of this group is neutral regarding the statement that they would find telemonitoring desirable or necessary.

#### **Nurses see opportunities for the improvement of medication safety via eHealth**

Medication safety is an important theme for nurses. Over 80% of nurses in elderly care and hospital care say that they believe that digital double medication checks are necessary or desirable. The use of these checks is significantly lower, at 23% -31% respectively. In addition, 71% of nurses in elderly care and 40% of nurses in hospital care find the use of medicine dispensers necessary or desirable. Nurses in elderly care have used these more frequently over the past year. It is striking that medicine dispensers are used for a limited number of patients. In all three sectors, most nurses believes it is their job to inform patients about eHealth and to assist them in using it.

Of nurses working in all three sectors, 25%-40% miss clarity on what falls under their job description when it comes to new IT applications. Other needs around assistance for new IT applications vary from sector to sector.

### Electronic record keeping and communication between healthcare professionals

#### **Healthcare professionals want even more information exchange**

Most healthcare professionals mainly maintain their patient records digitally. Nearly all general practitioners can digitally exchange medical information with hospitals, laboratories and medical centres. However, they are less able to do so with the services for social support to municipalities, home care, district nurses or the hospital. However, general practitioners do want to be able to.

Compared to general practitioners, medical specialists, and nurses in elderly care and hospital care digitally exchange information less frequently. At the same time, most nurses do want to and expect it to result in positive effects. Nurses in hospital care and elderly care still mainly transfer medical information on paper. In 2017, over half of nurses in elderly care indicate that the organisation uses digital information exchange.

Among medical specialists, more and more often have the possibility to digitally send and receive an up-to-date medication overview to and from public pharmacies. Yet, around half of medical specialists in 2017 still indicate that they do not yet have this option, but would like to.

# eHealth Objectives set by the Ministry of Health, Welfare and Sport

In July 2014, the Ministry of Health, Welfare and Sport set three objectives, which they hope to realise<sup>4</sup> within five years. We discuss these objectives in this paragraph. The objectives are listed in boxes 2-4.

## Medical specialists and nurses increase availability of patient access

The possibility for healthcare users to access their medical records starts with healthcare professionals making this available. It is therefore a good thing that the availability of patient access with medical specialists and nurses in elderly care has increased. Among general practitioners, where we observed almost no change, there was an increase in the group that does not know whether they consider patient access as desirable or has no opinion on this.

This year again, we observed that the percentage of doctors that say they offer online access is much higher

than the percentage of healthcare users that is aware of this or makes use of this option. In the group where patient access seems to be the most relevant, specifically for patients with a chronic disorder, many patients are still unaware of the possibility and use is still relatively low.

This means that there is still a long way to go to achieve the set objective in 2019 (refer to box 2). Multiple initiatives are currently being undertaken with the goal of making patients more of a focus and giving them more control by providing them with patient access in their medical information. Examples are the programme MedMij<sup>5</sup>, the Outcome Objectives from the Informatieberaad<sup>6</sup> and het Versnellingsprogramma

4. Minister en staatssecretaris van Volksgezondheid, Welzijn en Sport. (2014). Brief aan de Voorzitter van de Tweede Kamer betreffende eHealth en zorgverbetering. Den Haag: Ministerie van Volksgezondheid, Welzijn en Sport.
5. MedMij. Grip op je eigen gezondheidsgegevens. Accessed on 1 August 2017 on <http://www.medmij.nl>.
6. Informatieberaad. Outcome-doelen Informatieberaad. Accessed on 2 August 2017 on <https://www.informatieberaadzorg.nl/publicaties/publicaties/2017/3/24/generieke-outcome-doelen-informatieberaad>.



## Box 2: Patient access objective

The first objective states that within five years, 80% of chronically ill patients have direct access to certain medical information, including medication information, vital functions and test results, and if desired that they can use this information in mobile apps or internet applications. For all other patients, this should be 40%.

Informatie-uitwisseling Patiënt en Professional (VIPP)<sup>7</sup>. In the coming years, these efforts will hopefully lead to an increased availability of patient access and more widespread use. In line, it is important to keep the end user in mind: healthcare users and healthcare professionals alike are sometimes still hesitant. It is therefore important for eHealth applications to be developed based on added value with a focus on the end user. That means that they should be easy and intuitive to use and be in line with the experience of both the healthcare user and the healthcare professional.

### Chronically ill patients measure health values more frequently

In the past year, half of frail elderly and 55% of chronically ill patients independently measured their own health values, such as weight, blood pressure, and blood sugar levels. Among chronically ill patients, this percentage increased somewhat as compared to the last measurement (autumn 2015); they also keep track of their health values somewhat more frequently as compared to the last measurement. The second objective set by the Ministry of Health, Welfare and Sport (refer to box 3) does take into account that not all chronically ill patients and frail elderly want to or are able to perform these self-measurements.

A large group of chronically ill patients or frail elderly

indicates not to want to measure their health values. Like last year, that meets the first part of the objective. Around half of general practitioners says that they sometimes recommend patients to perform self-measurements. It is however unknown how they go about this and the results this leads to. Therefore, it is not only important to gain insight into the size of the group of patients that can be encouraged to perform self-measurements, but also the extent to which healthcare professionals are able to encourage patients in this area.

Telemonitoring, which concerns the second part of the objective, is having trouble getting established. The question is why this is the case, and what this means. Telemonitoring can lead to a reduction in the number of visits to a healthcare professional. However, convincing evidence that telemonitoring leads to better health has only been found for a small number of disorders. It is the case for diabetes mellitus type 2 and heart failure<sup>8</sup>. And this study shows that general practitioners and medical specialists believe telemonitoring is often the most relevant for this patient population specifically. And yet, there also remains a gap between desired use and actual use. One of the causes is that patients often do not see the necessity or personal added value of telemonitoring. Second, obstacles are experienced in the area of education, the applications, and work methods<sup>9</sup>.

## Box 3: Measuring health values

The second objective states that within five years, 75% of chronically ill patients and frail elderly that want to and are able to do so can independently perform self-measurements, often combined with remote data monitoring by a healthcare professional.

- NVZ Dutch Hospital Association (2016). Versnellingsprogramma Informatie-uitwisseling Patiënt en Professional. Accessed on 28 June 2017 on <https://www.nvz-ziekenhuizen.nl/onderwerpen/vipp-programma>.
- Hanlon, P., Daines, L., Campbell, C., McKinstry, B., Weller, D., Pinnock, H. (2017) Telehealth interventions to support self-management of long-term conditions: a systematic metareview of diabetes, heart failure, asthma, chronic obstructive pulmonary disease, and cancer. *Journal of Medical Internet Research*, 19(5), e172.
- Radhakrishnan, K., Xie, B., Berkley, A., Kim, M. (2016). Barriers and facilitators for sustainability of tele-homecare programs: a systematic review. *Health Research and Educational Trust*, 51(1), 48-75.

#### **Box 4: Video calls and home automation**

The third objective states that everyone who receives care and support at home should have the option to – if desired – communicate with a healthcare professional via a screen, 24 hours a day. Home automation would also be used here, in addition to video calls.

Given the proven efficacy in diabetes mellitus and heart failure, it seems most useful to gain experience with this patient group first. Resulting focus points are that patients are informed of the potential added value, that work processes are adapted, that regulations are clear, and that people are being educated. Nurses and mental health nurse practitioners can play an important role in informing, advising, and making patients enthusiastic about telemonitoring. As many already regard this as their job, this offers a good starting position. It is important that the professionals mentioned here are, or will be, fully equipped to do so.

#### **No developments in video calls and home automation**

This study shows that the availability and use of video calls and home automation is stable (refer to box 4). Patients that receive care and support at home barely make any use of it. At the same time, around a third of these patients would want to make use of video calls and mainly as an addition to standard care. Around half of nurses finds video calls necessary or desirable. Like most eHealth applications, video calls require a very precise implementation strategy. In those cases where video calls or home automation can lead to better care or better support, and where it is relevant to use such applications, it is important to pay enough attention to potential obstacles and involvement of healthcare professionals and patients. The knowledge, skills and time of professionals and managers are essential in that. In the area of video calls and home automation, nurses can play an important role in introducing and assisting their patients in the use of these.

# Considerations

The use of eHealth calls for change: in organisations and processes, but particularly also in behaviour. And changes in behaviour are difficult, but not impossible. However, when there is no clear motivation to work or act differently, people are quick to rely on ‘habitual’ behaviour.

Healthcare users and healthcare professionals alike frequently indicate that they do not know whether they want to use or employ eHealth or said they had no opinion on the matter. Motivation, or the lack thereof, can be a factor in that. When eHealth is used in a targeted manner and there is a necessity and/or added value for healthcare professionals and healthcare users that are able to use the application, it can have a positive effect on the level of adoption.

## Opportunities for upscaling eHealth based on the focus on necessity or added value

Many feel the need for change around medication safety. An incomplete or medication overview that is not

up-to-date can lead to medication interactions and in some cases even to hospitalisation. Various studies have confirmed that there is still a lot of progress to be made in the area of medication safety<sup>1</sup>. It is with good reason that medication safety is one of the Outcome Objectives of the Informatieberaad<sup>2</sup>.

We observe an opportunity for upscaling medication safety in the digital double medication checks in nursing care. Most nurses in elderly care and hospital care believe that the use of digital double medication checks is necessary or desirable. However, only one in five nurses use these checks<sup>3</sup>.

Digital information exchange also needs to improve. Information exchange between healthcare professionals can ensure a clear and up-to-date image of the patient, and thus contributes to the continuity of healthcare and patient safety. Digital information exchange between individual healthcare professionals and care facilities is not always possible yet, though we did observe an increase in many areas this year. In practice, it also does

<sup>1</sup> Refer to Chapter 4 in this report, Unlocking medical information, for additional background information.

<sup>2</sup> Refer to Chapter 2 in this report, Developments in eHealth, for additional background information.

<sup>3</sup> Refer to Chapter 6 in this report, Remote guidance and support, for more information.

not seem to be a matter of not wanting to, but one of not being able to. Lacking technology is often part of the problem. For example, nearly half of medical specialists indicate that the IT systems for information exchange does not work properly. Research conducted by the Dutch Health Care Inspectorate shows that a lot of time is lost by incomplete information transfers or by systems that are not properly coordinated<sup>4</sup>.

### Opportunities for upscaling eHealth based on the focus on the target group

Among users of eHealth applications, the extent to which the necessity or added value is felt may differ. This study shows that chronically ill patients measure their own health values more often and keep track of this information more frequently as well, possibly because they are becoming more aware of the importance of monitoring health values. But not everyone has to self-measure. Previous studies within the eHealth-monitor show that one in three chronically ill patients and frail elderly do not want to measure their own health values. That can be due to 'valid' reasons. For example, because the healthcare professional already does the measurements, or because it is not necessary given the patient's disorder. Accordingly, it seems useful to focus on patients for whom it can be necessary or useful to measure certain health values and to encourage that group to do so.

There are of course also patients that indicate that they are not able to use eHealth. If the use of eHealth were to have a clear necessity or added value for this group, they would benefit from guidance in measuring health values. It is only realistic to say that eHealth is not suitable for all healthcare users and is not suitable in all situations. It is important for healthcare users and healthcare professionals to know for whom and in which situations they can use forms of eHealth and what added value this offers. This can make the step towards using eHealth easier.

### Opportunities for upscaling through collaboration

Implementing eHealth applications is often a complex process. Healthcare providers should be aware of this, but they also need to be skilled enough to organise this. Particularly in first-line healthcare, where the healthcare organisations are often smaller, the question arises of whether they can organise this on their own. Research shows that it is difficult for first-line healthcare centres to implement eHealth applications in addition to offering standard healthcare<sup>5</sup>. Exchanging experiences between healthcare professionals, supported by industry organisations, can prevent them from having to reinvent the wheel.

Joining forces between different stakeholders such as healthcare professionals, managers, policy makers, health insurance companies, and developers of eHealth applications can have a positive effect on upscaling eHealth. Furthermore, it can be financially beneficial to work together. The use of eHealth takes time and money and the investing party does not always benefit<sup>6</sup>. In such joint ventures, parties can share financial risks, along with shared financial benefits. In addition, the chance of premature withdrawal is reduced when a collective collaboration agreement is reached.

### Recommendations for policy makers and interest groups

Based on the current state of affairs and findings resulting from this study, we have provided a number of recommendations for policy makers, (representatives of) healthcare professionals, patient organisations and market parties.

#### 1. Consciously choose eHealth

Part of the group of doctors that indicates that they would like to use certain eHealth applications do not have any plans for implementation. In addition, doctors

4 Dutch Health Care Inspectorate (2016). Veilig voorschrijven moet beter. Een gezamenlijke zorgbrede verantwoordelijkheid. Utrecht: Dutch Health Care Inspectorate.

5 Swinkels, I.C.S., Huygens, M.W.J., Schoenmakers, T.M., Oude Nijeweme-d'Hollosy, W., van Velsen, L., Schoone-Harmsen, M., Jansen, Y.J.F.M., van Schayk, O.P., Friele, R., de Witte, L. Lessons learned from a Living Lab on broad adoption of eHealth in primary healthcare. *Journal of Medical Internet Research* (submitted 2017).

6 Inspectie der Rijksfinanciën, Bureau Strategische Analyse (2017). IBO Innovatie in de zorg: Vernieuwing in de zorg, zorg voor implementatie. The Hague: Inspectie der Rijksfinanciën.

frequently indicate that they do not know whether they want to use eHealth or say they have no opinion on the matter.

The necessity or added value of eHealth being obvious improves the chances of a successful implementation. However, sometimes the necessity or added value is not evident. Then it is important for healthcare professionals to get clarity on the why of eHealth. Do they see eHealth as a necessary change to the healthcare process or as a valuable expansion of healthcare? Does eHealth offer possibilities for giving the patient more control or to unburden the patient? And what does that mean for the role of the healthcare professional? A vision on these issues contributes to a solid strategy that can provide healthcare professionals with more control over the implementation and application of eHealth.

Focus results from vision. The healthcare sector is large and there are also countless opportunities in eHealth. Healthcare providers should make choices. When it is clear why, what they want to achieve for whom should become clear as well. Agreement within a healthcare organisation on what to achieve can help in upscaling. In that, focus on relevant and broadly supported goals, like improving medication safety. Involve relevant stakeholders from the start as well, such as employees, healthcare users and health insurance companies. The use of eHealth can be defined based on the objectives to be achieved, as a tool that can contribute to achieving the objective.

Defining the target group (the 'who') will help to make the objective to be achieved more manageable. Healthcare users that initially benefit the most from a specific eHealth application will be more inclined to use the application. E-consults, for example, can be useful for patients that have regular contact but who do not require a physical exam. Telemonitoring is mainly for those people that are well able to take their own measurements, such as patients with diabetes and heart failure.

The definition of the why, what and for whom includes an important role for the interest groups of healthcare

professionals. They can take the lead and mobilise their members. The government can support healthcare professionals and their interest groups in vision and strategy development, for example by organising knowledge sessions or through research (also refer to recommendation 5).

## **2. Encourage improvement of digital information exchange and double medication checks**

Improvement of the current IT systems is necessary to pave the way towards an adequate exchange of medical information. It is worth considering the options there are for improving existing possibilities for standardised digital information exchange, given the importance of correct and prompt exchange of information for patient safety. This calls for active government direction, in consultation with (representatives of) healthcare providers and suppliers of IT systems. Furthermore, it seems relevant to consider how parties such as general practitioners or pharmacists and initiatives such as Registratie aan de Bron (Clinical documentation at the point of care) can be coordinated to contribute to clear healthcare information for multiple uses.

Given the gap between the desirability and the need for digital double medication checks and the use of these checks, it seems important to work on a further implementation of this eHealth application in elderly care and hospital care. Directors and managers of (home) care organisations play a pioneering role, supported by trade associations such as those for nurses and carers in the Netherlands (V&VN), in the broader use of digital applications for double medication checks for nurses to improve medication safety.

## **3. Encourage experience in education and continued education, create ambassadors**

Realising upscaling will require more experience with and knowledge of eHealth applications. This will enable users to better gauge the applicability and added value of it. For healthcare professionals, experience starts

with education and should be offered here as well, in theory and in practice. In line with the eHealth-monitor 2016, the recommendation to professional associations, in collaboration with education institutes, is to promote integration of eHealth in curricula. This does not only apply to the initial education; it also applies to continued education.

Developers of eHealth applications likewise play an important role in offering the option to gain experience. Using software demos, they can allow practising healthcare professionals and patients to gain experience with a service or application. Healthcare users can also be encouraged more to experience eHealth using test labs.

It is important for end users to be involved in the development of an application. But proper support in the correct use of the application is important as well. Ambassadors among healthcare professionals and patient organisations can help to encourage and guide experience. Within patient organisations and healthcare organisations, ambassadorship is needed to inform colleagues, create enthusiasm, build trust, and thus boost the implementation. Outside of care facilities and organisations, ambassadors are needed to share their experiences and advise new users during the implementation. Interest groups need to appoint ambassadors and support them in promoting the use and necessity of eHealth.

#### 4. Inform, communicate and guide

In the 2017 results, we observe that there was frequent unfamiliarity and unclarity. For example, we observe that rules, work methods, and guidelines are often unclear to healthcare professionals. Furthermore, healthcare professionals need clarity on the security and added value of available applications such as online contact. Parties involved in setting quality guidelines for healthcare, like associations for healthcare professionals and patient organisations, can make information on rules, financing, and legislation for eHealth applications (such as e-consults) part of new or revised guidelines and healthcare standards. Knowledge and expertise

centres in eHealth can contribute to the awareness surrounding the appropriate, sustainable use of eHealth by means of meetings and knowledge publications. Argument guides and proven good practices can persuade healthcare professionals to actively offer eHealth.

Like in previous editions of the eHealth-monitor, this year again showed that many healthcare users are not aware of the availability when it comes to eHealth. Healthcare professionals, supported by their professional associations, play an important role in personally informing patients about eHealth. In this process, it is important that they underline the added value for the individual healthcare user. They need to offer eHealth at a time when it is relevant to the healthcare user. Furthermore, healthcare users need guidance in the use of online applications. Ambassadors (refer to recommendation 4) can play a role in this. To inform and guide patients on the use of eHealth, nurses see themselves playing an important role. It would be good if they would (be able to) take on this role, supported by interest groups like V&VN and Actiz.

The broad possibilities offered by eHealth could reach patients/healthcare users through more channels. Personal (news)letters, patient folders, or messages from the government can be employed to communicate the availability and added value of eHealth applications. The eHealth week also offers chances and possibilities for creating awareness about eHealth applications and for creating experiences. As such, there is a clear role for (professional associations of) healthcare providers, healthcare organisations, patient organisations, and the government.

#### 5. Study good/bad practices

After the why, what, and whom, we should bring meaning to the how. In this year's results, we observe that healthcare professionals could use support in the application of eHealth. Knowledge of the efficacy of implementation strategies can contribute to this. How can healthcare organisations get clarity on the necessity or added value of eHealth, the objective to be achieved,

and how to achieve that objective? What kind of support do healthcare professionals need when implementing eHealth applications, and how can they best inform and motivate healthcare users?

Research is and remains necessary to gain insight in the efficacy and upscaling possibilities for eHealth applications. Upscaling of proven effective eHealth applications still does not happen enough. Good examples are an important stimulus for this. There is currently not enough insight into good/bad practices. Education and research institutes, supported by research funds, can analyse good and bad practices of eHealth to gain more insight in the processes and factors that underlie a successful or a failed implementation. Analysing the relative benefit of an eHealth application as compared to the old work method provides scientific insight in health results, satisfaction among patients and healthcare professionals as well as changes in the cost of healthcare. Such research would produce lessons learned in the implementation process and insight in the effects and cost-effectiveness of selected forms of eHealth. This will create awareness for policy makers, managers, directors, and healthcare professionals that can use this knowledge to apply and implement eHealth.

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