# **Annual European eHealth Survey 2019**





Supported I



## **KEY FINDINGS**



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**eHealth business climate:** Business expectations for eHealth remain positive. Reaching an all-time high at the beginning of 2019 they have now returned to their longer term average from the previous three years. An exception is the UK where optimism has cooled down more as in other countries.

#### 4 Lessons from the European Annual eHealth Survey 2019

#### Lesson 1: Do you have the right strategy? Patient empowerment, telemedicine, and continuity of care

The (near) future of eHealth circles around empowered patients that do not only have access to their health records but will also contribute to these records with self-generated data. Telemedicine services are expected to become more important, thanks to new reimbursement schemes and changes in health system settings that are often related to shortages of health and care resources, but also to a systematic reduction of physical health facility locations. In this changing environment, health information will have to flow more easily and quickly between different types of care providers, different types of care settings, and even across different regions and countries. Healthcare delivery organisations, as well as technology solution providers that do not actively focus on these topics are at risk to become less relevant. According to this study, healthcare providers in Austria, Italy and the Netherlands are currently using cross-organisational patient records the most.

#### Lesson 2: How strong is your foundation? IT Security, Electronic Medical Records, Access to information

While the future of health will rely on more mature digital capabilities and services, the foundation for this brave new world has to be based on secure environments providing the highest standards to protect health information. As such, IT security improvements top the current agendas from many healthcare provider organisations and technology vendors. At the same time, many providers are still challenged to implement and deploy EMRs comprehensively across their organisations. But without complete electronic medical records, it will be difficult to enable patients to access their information and participate more actively in their own health-related activities, to be part of integrated health systems, to offer telemedicine services, or to leverage the power of digital information through AI-based solutions, population health initiatives and personalised medicine programmes. Currently, eHealth professionals are held back by funding and interoperability challenges to make faster progress. More direction and support from governmental health authorities would be welcome, especially from the perspective of chief executive officers.

#### Lesson 3: What is digital maturity? Digitisation versus digital transformation

The vast majority of patient records in Europe are digitised. Further progress, albeit slightly, was made in this area over the past year. This means, more patient records were either converted from a physical format to a digital one, or the data was directly captured in digital format from the source. But it does not mean that health and care systems have become much smarter. Digital maturity and digital transformation require a larger stretch so that new opportunities of digital data can be leveraged. The goal is to make health and care provision more efficient, safer, and better. The perceived gap between digital maturity and "simple" digital records has increased over the past year, indicating that the value of digital tools and services is often not fully realised. It fits into this picture that clinicians more often perceive the IT budgets from their organisations as insufficient than their colleagues from IT. We believe this is a further indication that the end users of (clinical) digital products and services do not receive what they desire. The eHealth community must work together to address this value gap.

#### Lesson 4: Who is the champion of eHealth adoption and innovation in Europe? Similar, but not quite the same...

The Nordics and the Netherlands remain to be seen as the role models for eHealth adoption and usage in Europe. If you have looked at them as a reference in the past, you are likely to be right if you continue to do so. However, this year we have a slight change at the top rank – Estonia has changed place with Denmark and is now perceived to be the leading eHealth country in Europe.

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# **HIMSS ANALYTICS – WHO WE ARE**

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## **EHEALTH SURVEY AND TRENDBAROMETERS – METHODOLOGY**



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## **SURVEY QUESTIONS**

## "Annual European eHealth survey"

- 1. What type of organisation are you working for?
- 2. What are the biggest eHealth PRIORITIES for healthcare providers at the moment?
- 3. What are the main eHealth CHALLENGES healthcare providers currently face?
- 4. What do you see as the biggest eHealth TRENDS within the next 2 3 years?
- 5. How would you rate your organisation in terms of digital maturity?
- 6. What percentage of patient data in your organisation is digitised?
- 7. Do you think your organisation has sufficient IT budget for the next 12 months?
- 8. How would you describe the amount of central (governmental) direction and support you receive to progress your eHealth agenda?
- 9. Do you have an integrated technology department, i.e. where IT and medical engineers are managed as one service unit?
- 10. Which country do you consider being a role model for eHealth innovation in Europe?
- 11. What percentage of your organisation's total annual expenditure is spent on digital products and services, including the necessary IT infrastructure (hardware and software)?
- **12**. Does your organisation use cross-organisational electronic patient records to exchange clinical data?
- **13**. With which external institutions do you have an interface to exchange clinical data?
- 14. How will the environment for eHealth innovation and investment in your country develop over the next 12 months?



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## **SAMPLE DISTRIBUTION – SURVEY PARTICIPANTS**





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## **CURRENT EHEALTH PRIORITIES – BY TYPE OF ORGANISATION**

IT Security is the top priority among respondents in Europe, its relative importance has increased compared to last year. EMR implementation also continues to be a top priority, despite dropping down from first to second rank overall. Patient access to information remains on third rank, similar as one year ago. When comparing different stakeholder segments, the number one priorities vary to some extent. Improving access to (health) information for patients is the top priority for consulting companies and health authorities – but significantly less for healthcare provider organisations. The latter are more focused on improving IT security. Software vendors prioritise IT Security and EMR implementations.

#### What are the biggest eHealth PRIORITIES for healthcare providers at the moment?

[Total also includes "others"; Multiple choice with a maximum of 3 responses]



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# **CURRENT EHEALTH PRIORITIES – BY COUNTRY / REGION**

McKinsey By country, the results are reflective of the different national or regional policy and regulatory priorities, which manifest themselves in varying degrees of digital maturity. As such, eHealth priorities differ by country/region: EMR implementations are a top priority in Germany (54%) and the United Kingdom (37%), while they are of lower priority in more EMR-mature countries like the Netherlands (12%) and Spain (12%). In countries where healthcare providers are typically more digitally mature, the patient has already taken much more attention of eHealth professionals, e.g. by providing them with better access to information, but by also enabling them to be more actively engaged with their own health concerns and contribute to the generation of health-related data.



[Total also includes "others"; Multiple choice with a maximum of 3 responses; Choices ranked into top 3 answers; Values for countries and regions weighted according to the distribution of "type of organisation" in the sample]



	Austria	Germany	Italy	Nether- lands	Nordic Countries	Spain	Switzer- land	United Kingdom	Total
Security	43%	46%	50%	24%	26%	35%	35%	22%	36%
MR implementation	31%	54%	23%	12%	24%	12%	32%	37%	32%
nprove patient access to Iformation	17%	17%	47%	39%	34%	28%	23%	19%	27%
ystem usability	17%	14%	14%	26%	31%	31%	33%	46%	26%
ata exchange with xternal partners	24%	27%	14%	55%	20%	7%	36%	26%	24%
nprove clinician access Dinformation	25%	15%	33%	11%	25%	16%	23%	47%	22%
atient-generated data	20%	16%	21%	33%	24%	38%	18%	16%	21%
eorganisation of health ystems	24%	12%	27%	16%	22%	13%	13%	20%	19%
ost savings	23%	13%	21%	24%	13%	19%	18%	28%	18%
ealthcare Analytics	12%	6%	10%	8%	25%	38%	12%	14%	16%
rtificial Intelligence	3%	8%	12%	24%	21%	24%	13%	3%	14%
lobile devices	16%	18%	9%	10%	16%	14%	10%	7%	13%
pdating hardware or etwork resources	8%	14%	5%	8%	1%	11%	2%	13%	8%
rchiving and ocumentation	14%	15%	2%	0%	0%	0%	8%	0%	5%
	34	96	37	47	87	47	52	31	530





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## **CURRENT EHEALTH CHALLENGES – BY TYPE OF ORGANISATION**

Overall, funding continues to be perceived as the major challenge (37%), its importance even increased compared to 2018. Interoperability and workforce concerns are ranked as number two and three challenges overall. Again, there are differences between the different stakeholder groups. Consulting companies and software vendors see a big challenge also in the lack of political direction. Tackling interoperability clearly is the main challenge for health authorities. Healthcare providers are, next to funding, also concerned about a lack of sufficiently skilled employees and IT security requirements.

#### What are the main eHealth CHALLENGES healthcare providers currently face?

[Total also includes "others"; Multiple choice with a maximum of 3 responses]



Valid cases 2018: Total: n = 568



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## **CURRENT EHEALTH CHALLENGES – BY COUNTRY / REGION**

There are substantial differences among countries regarding perceived eHealth challenges. Funding is a particularly strong concern for eHealth professionals in the UK and Germany. Providers in these countries, plus the Netherlands and Switzerland, also have difficulties hiring the right specialists – a problem most of them already ranked high in the previous year. Italian eHealth professionals are struggling with interoperability and a perceived lack of political direction. Spanish eHealth professionals are relatively less concerned about interoperability requirements; they are rather occupied with eHealth challenges related mobile health and patient empowerment.

#### What are the main eHealth CHALLENGES healthcare providers currently face?

[Total also includes "others"; Multiple choice with a maximum of 3 responses; Choices ranked into top 3 answers; Values for countries and regions weighted according to the distribution of "type of organisation"





5%

19% 20% 7%

35% 17% 14% 19%

11%

51 31 530

2%

23%

21%

10%

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10

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12%

47

32%

17%

13%

86

25%

**ehealth** 

## **EHEALTH TRENDS – BY TYPE OF ORGANISATION**

Total

n = 531

The perception of eHealth trends for the next few years has not changed much in 2019. Compared to last year's results, the only significant exception is the rising importance of telemedicine services, which are often related to video-conferencing solutions. In some countries, like Germany, this is rise can be linked to legislative initiatives where new reimbursement rules incentivise the provision of such services. Apart from this exception, the other topics appear to be well-known: Initiatives, projects and solutions that focus on patient (owned) medical records, health information exchange with external providers, patient self-monitoring capabilities, personalised medicine, EMRs and AI should be on the agenda of all eHealth stakeholders. Similar to last year's results, blockchain-based initiatives or solutions are unlikely to attract the attention of the broader eHealth community in the near future, they rather appear to be relevant for very specific stakeholders and projects.

Consulting

company

n = 61

Health

n = 49

authority

Health

facility

n = 242

## What do you see as the biggest eHealth TRENDS within the next 2 - 3 years?

[Total also includes "others": Multiple choice with a maximum of 3 responses]





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Software

vendor

n = 82

# **EHEALTH TRENDS – BY COUNTRY / REGION**

Patient (owned) health records and telemedicine services will be high on the agenda everywhere, except for the Nordics where they are already widely adopted. The provision of (more) personalised medicine services is a key trend in countries like Austria, the Nordics or Spain. The use of AI is seen as an important trend for eHealth professionals from the Nordics and UK. Blockchain and augmented reality are rather unlikely to become widely adopted over the next two to three years.

### What do you see as the biggest eHealth TRENDS within the next 2 – 3 years?

[Total also includes "others"; Multiple choice with a maximum of 3 responses; Choices ranked into top 3 answers; Values for countries and regions weighted according to the distribution of "type of organisation" in the sample]

> Patient Health Record (59%) Health information exchange with external providers (52%)

- Patient Health Record (55%) EMR implementation and adoption (40%)
- Health information exchange with external providers (48%)
- Patient Health Record (40%)

Provision of telemedicine services (by providers) (42%) Personalised medicine (37%)

/•	Artificial Intelligence
	(47%)
•	Personalised medicin
	(38%)

Provision of telemedicine services (by providers) (49%) Patient Health Record (36%)

> Personalised medicine (45%) Provision of telemedicine services (by providers) (44%)

Provision of telemedicine services (by providers) (46%)

- Patient Health Record (45%)
  - Top 3 answers
    - Bottom 3 answers

	Austria	Germany	Italy	Nether- lands	Nordic Countries	Spain	Switzer- land	United Kingdom	Total
atient Health Record	42%	36%	45%	59%	17%	33%	40%	55%	37%
rovision of telemedicine ervices (by providers)	44%	49%	46%	17%	27%	42%	34%	18%	36%
lealth information exchange with external providers	16%	31%	25%	52%	14%	26%	48%	32%	31%
atient self-monitoring	27%	22%	34%	41%	30%	36%	23%	24%	29%
ersonalised medicine	45%	30%	31%	23%	38%	37%	24%	10%	28%
MR implementation and doption	19%	35%	14%	7%	35%	10%	32%	40%	30%
artificial intelligence	21%	24%	24%	34%	47%	27%	30%	39%	30%
Population Health Nanagement	27%	12%	25%	17%	33%	21%	13%	30%	22%
Data analytics	17%	12%	11%	33%	22%	36%	13%	17%	20%
rovision of virtual care ervices (by new market ılayers)	18%	16%	15%	3%	17%	16%	13%	27%	14%
Blockchain	0%	1%	10%	2%	1%	7%	7%	7%	4%
Augmented Reality	0%	5%	3%	3%	3%	2%	5%	0%	3%
n	34	97	37	47	86	47	51	31	530



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## DIGITAL MATURITY AND THE PREVALENCE OF DIGITISED PATIENT DATA

The vast majority of patient data in Europe is available in digital form. According to this study, 78% of patient records across all countries are digitised. This is a slight increase compared to last year. Countries such as the Netherlands and the Nordics, where more than 90% of patient records are already digitised, have a strong foundation to transform their health systems and provide new types of services. However, the prevalence of digital data alone doesn't automatically lead to high levels of digital maturity, i.e. with the ability to provide meaningful and effective outcomes. This explains why healthcare providers from all countries rate their own digital maturity typically much lower than the availability of digitised data. This gap is particularly strong in

Austria.

#### How would you rate your organisation in terms of digital maturity?

[mean values; scale from 1 "not mature at all" to 10 "extremely mature"; only participants who work in a health facility]

## What percentage of patient data in your organisation is digitised?

[Scale from 0% - 100%; only participants who work in a health facility]



Valid responses 2018: Total: n = 262\*/242\*\*; Italy: n = 19\*/19\*\*; Nordic Countries: n = 35\*/33\*\*; Switzerland: n = 30\*/29\*\*; Spain: n = 19\*/18;\*\* Netherlands: n = 20\*/17\*\*; United Kingdom: n = 19\*/15\*\*; Germany: n = 48\*/44\*\*; \*Q1: digital maturity?; \*\*Q2: percentage of digitised patient data?; Austria: no data for 2018.

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## **ADEQUACY OF IT BUDGET IN 2019/20**

The majority (63%) of healthcare employees think their institutions' IT budget is too low. This is a slight increase compared to the results from previous years (2018: 59%, 2017: 62%). It is thus not surprising that the average level of digital maturity has not increased much (see previous slide). Comparing these results by country has to be done carefully, considering the rather low number of respondents. Still, Austrians tend to be more satisfied with their IT budgets as their peers from Spain or the UK. Interestingly, clinical staff members do more often perceive the IT budgets of their own organisations to be insufficient than their colleagues from IT departments. This can be a sign of frustration, i.e. digital solutions not delivering the expected benefits from an end user perspective. We recommend to investigate this further. Especially since this gap has increased over the past year.

Do you think your organisation has sufficient IT budget for the next 12 months?



Valid responses total 2018: n = 227 and by profession: IT Staff 2019: n = 46; Physicians & Nurses 2019: n = 41; IT Staff 2018: n = 48; Physicians & Nurses 2018: n = 44. © HIMSS Analytics | eHealth TRENDBAROMETER Q4/2019



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... by profession 2019

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## **GOVERNMENTAL SUPPORT FOR EHEALTH**

E-Health professionals are slightly more positive about the level of direction and support received from their governments as they were in 2018. Only in the Nordic countries this impression has not improved. Dutch stakeholders feel by far most encouraged to further progress their eHealth agenda, which is reflected by the strong focus on digital health initiatives by their government. German respondents are least positive about the support of their health authorities, what partially can be attributed to the never-ending story about their national eHealth infrastructure ("Telematikinfrastruktur"). Chief Executives are the most disappointed stakeholder group.

### How would you describe the amount of central (governmental) direction and support you receive to progress

your eHealth agenda? [Total includes "others"; mean values; scale from 1 "inadequate" to 10 "adequate"; only participants who work in a health facility]



Valid responses 2018: Total: n = 477; Netherlands: n = 42; Switzerland: n = 44; Italy: n = 41; Austria: no data for 2018; Nordic Countries: n = 87; Spain: n = 47; United Kingdom: n = 27; Germany: n = 82; Austria: no data for 2018; in 2018 this questions was not limited to participants who work in a health facility only.

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## **TECHNOLOGY DEPARTMENT**



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Integrated technology departments are found in more than one third of European health facilities. At the moment, these are most common in the DACH region. But also many healthcare providers in the Netherlands and the Nordic countries have plans to establish such integrated departments. Although Spain has a certain maturity in digitising its healthcare system, such departments are far less widespread than elsewhere in Europe.

#### Do you have an integrated technology department, i.e. where IT and medical engineers are managed as one

**service unit?** [Total includes "others"; Rounding errors may occur; only participants who work in a health facility]



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## **ROLE MODEL FOR EUROPEAN EHEALTH**

Estonia is seen as the leading country for eHealth innovation in Europe. It has overtaken last year's winner, Denmark, which is now ranked on 2<sup>nd</sup> place. However, in general the Nordic countries (including Estonia) and the Netherlands clearly lead this ranking. For eHealth professionals from health authorities Denmark remains (by far) the country of reference for eHealth innovation.

While no eHealth professional from Germany considers her/his own country as a role model for eHealth, their colleagues from Italy, Spain and the UK have a much better impression about their own country's achievements and innovation potential in eHealth.

### Which country do you consider being a role model for eHealth innovation in Europe?

[Total includes "others"; Rounding errors may occur; Values for countries and regions weighted according to the distribution of "type of organisation" in the sample]





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## **EXPENDITURE FOR DIGITAL PRODUCTS AND SERVICES**

According to this study, the average European healthcare provider organisation spends between 2.9% and 3.9% of their total annual expenditure on digital products and services. It is important to note that these data are based on estimations from respondents and will not exactly match official accounting figures. If we assume that CIOs have better insights into real spending, due to their professional role, it appears that clinical stakeholders overestimate real spending by roughly 50%. However, when comparing countries, it can be seen that those countries who have achieved higher levels of digital maturity, like the Netherlands and the Nordics (see page 13), do also have higher IT expenditures. Those countries with lower digital maturity, like Germany and the UK, do also spend less. An exception from this trend is Italy.

# What percentage of your organisation's total annual expenditure is spent on digital products and services, including the necessary IT infrastructure (hardware and software)? [Total includes "others"; only participants who work in a health facility]





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## **EXTERNAL HEALTH INFORMATION EXCHANGE – CURRENT USE**

Cross-organisational electronic patient records are established and used by a majority of health organisations in most countries, led by Austria with the introduction of "ELGA" (national EHR) and Italy ("FSE", regional EHRs). Medical records are rarely shared electronically with external organisations in countries like Germany, Spain and the United Kingdom. The results for Spain and the UK are unexpected as these countries have made significant efforts to enable cross-organisational health information exchange, in Spain typically led by the regions, in the UK by the national health service(s). Some of these efforts apparently have not yet reached daily practice or are perceived as not being comprehensive enough (see next page).

#### Does your organisation use cross-organisational electronic patient records to exchange clinical data?

[Total includes "others"; only participants who work in a health facility]



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## **EXTERNAL HEALTH INFORMATION EXCHANGE – TYPE OF INSTITUTIONS**

The majority of health facilities exchange clinical data with hospitals electronically – the share is highest in Austria, the Nordic countries and Spain. Crossorganisational data exchange has not yet reached the same maturity when it comes to primary care. The gap between primary and secondary care is most obvious in Spain, where sharing data with hospitals is quite common, but only about one third of organisations share data with primary care. Data sharing with pharmacies and with allied health professionals happens frequently in the Netherlands and the Nordics, but is still rather untypical in other countries.

#### With which external institutions do you have an interface to exchange clinical data?

[Total includes "others"; only participants who work in a health facility and that indicated to use cross-organisational electronic patient records ]



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## **RESULTS – BUSINESS EXPECTATIONS**

Overall, business expectations for the eHealth sector continue to be positive. A majority of all respondents (54%) expect improvements. This is less than measured during the second quarter of 2019, when we saw an all-time high, but still very encouraging. As the economies of most European countries company experience a general slowdown of activities, a slightly less optimistic outlook for eHealth might not come as a surprise. Nordic and Dutch eHealth professionals remain the most optimistic ones, with at least 60% of respondents anticipating improvements and hardly anyone believing that the situation will become worse. The most pessimistic expectations can be found in the UK, where 29% of participants expect that innovation and investments into eHealth will be slower over the next year (but the balance of "optimists – pessimists" is still slightly positive, value = 6). The uncertainties related to Brexit might be manifested in these results.

# From a general perspective: How will the environment for eHealth innovation and investment in your country develop over the next 12 months? [Score for "Balance of business expectations" = (percentage "improve" – percentage "worse")\*100]







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