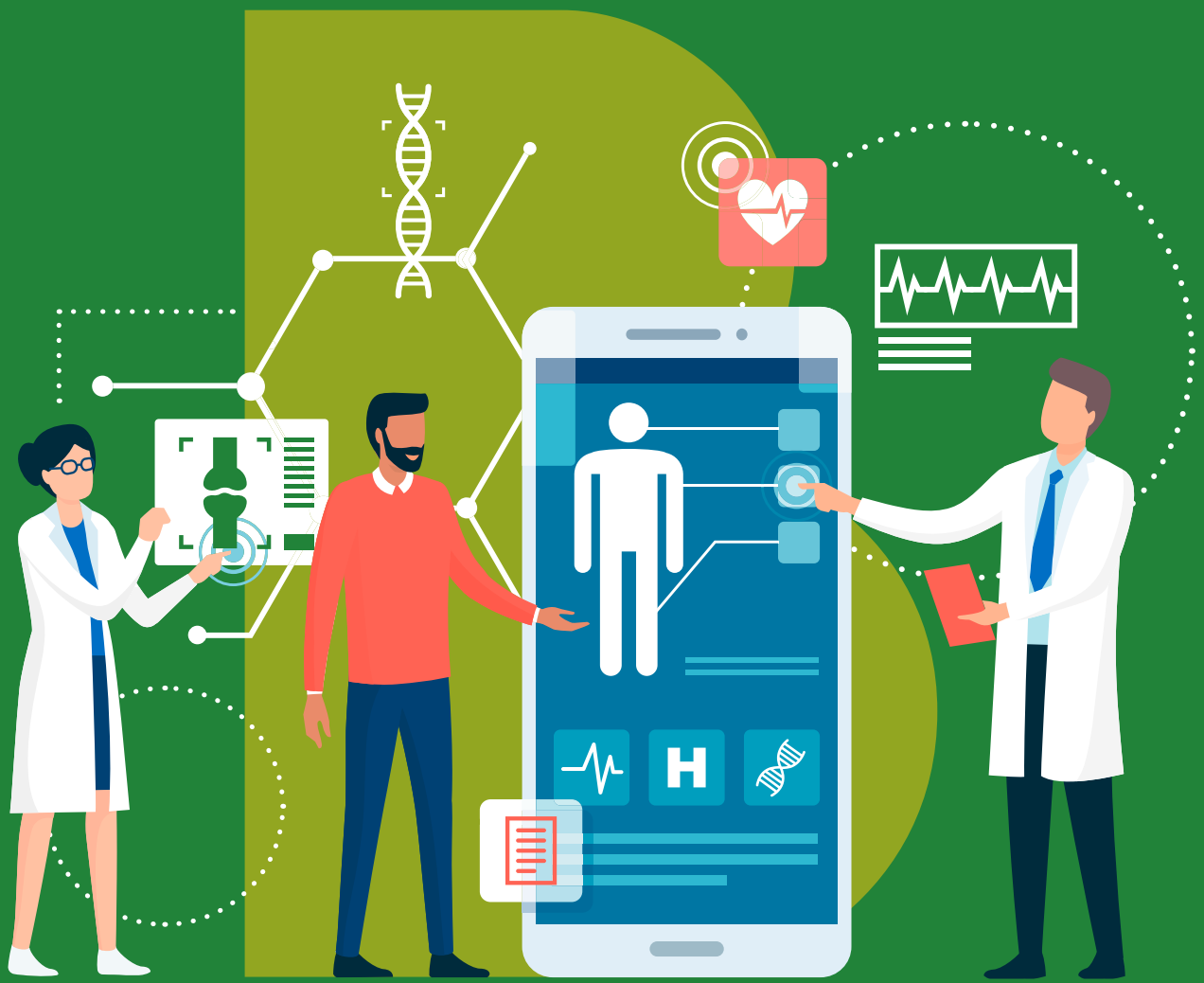
Roland Berger Focus

October 2019

Future of health

An industry goes digital – faster than expected



Roland Berger

Executive summary

The digital transformation of the healthcare sector has been the subject of research, publications and debate for nearly 20 years – mostly linked to the realization that little has yet become of all the initiatives and projects announced.

Well, current developments in the US and China indicate that the transition could now indeed be on the cards. The managers of many companies in the healthcare industry are forecasting huge changes. And among them are the 400 healthcare experts from around the globe who we asked about their predictions for the year 2025. The key findings of our survey are these:

→ Radical changes in healthcare systems will sweep over Europe in the next six years.
→ By 2025, the market volume for digital products and services[1] will already have risen to as much as EUR 38 billion in Germany and roughly EUR 155 billion in the EU.[2]
→ Digital technologies such as artificial intelligence (AI) are opening up new opportunities in the provision of healthcare but are also changing the roles of the different players. In the future, AI will play a major part above all in diagnostics, monitoring and prevention. 20% of medical services could be replaced by AI.
→ Digital pioneers in Germany and abroad and tech groups with deep pockets are aggressively penetrating the healthcare market. Six out of ten respondents expect the likes of Amazon, Apple and Google to number among the established players a few years from now.
→ 65% of respondents predict that healthcare players will align their IT systems and create central platforms for data exchange. Seven out of ten believe that patients will share their data with insurance companies to benefit from lower premiums for healthy lifestyles.
→ Nearly 80% expect health insurers to steer their customers in such a way that they primarily use the services of the insurer's preferred network partners. Almost half believe that insurance providers will offer digital diagnoses and therapeutic support, and that insured persons will make use of these offers.
→ Close to 40% forecast that drug prices will be more heavily based on effectiveness, i.e. performance-linked. Additionally, about a third of medicines could in the future be delivered to patients directly, without going via the intermediary of traditional pharmacies.

Dramatic changes that will affect all stakeholders in the healthcare industry are therefore in the pipeline. This being the case, now is the time not to ponder and consider, but to act.

1) Defined here as the optimization and renewal of processes in service and logistics, diagnostics, therapy and after-care by means of digital solutions such as data strategies, apps and end-to-end digitalization.
2) Based on current healthcare spending in Germany and the EU 28. These figures are extrapolated for the year 2025 based on the assumption of 3% annual growth. The respondent experts put the share of digital products and services at an average of 8%.

Contents

1. Healthcare in transition 4

The digital transformation is gathering speed

2. Our survey of experts 7

What will change between now and 2025

3. Responses 16

How are selected players preparing for the transformation?

4. Adaptive, agile and user-centric 19

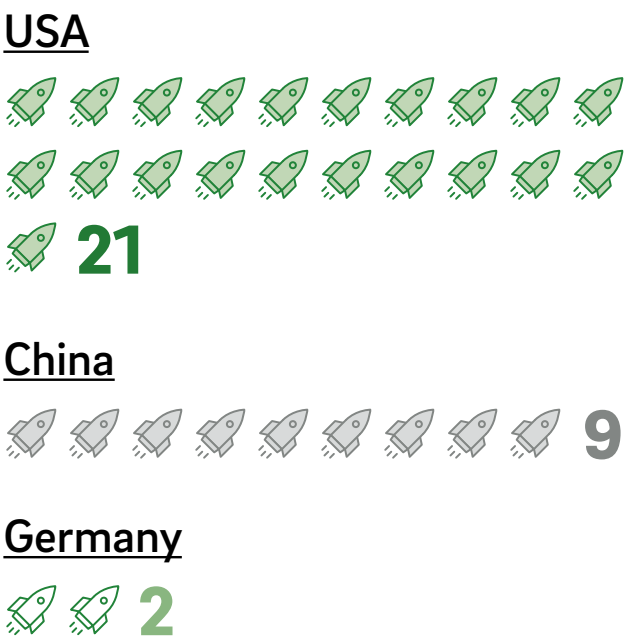
Roadmap for the digital transformation

1. Healthcare in transition

The digital transformation is gathering speed.

As things stand, the advance of digitalization in healthcare is still decidedly patchy. That goes for the pace of change in different countries, but also for the activities of the various players. → A International comparison puts the US and China out in front right now. And since providers from both countries are also blazing a trail in other high-tech industries, it is reasonable to assume that some of the developments outlined below will quickly follow in Europe as well. Signs that the transformation is in full swing are proliferating:

A: Number of unicorns in healthcare
Startups valued at more than USD 1 bn



Source: CBS Insights

1. MORE CAPITAL SPENDING

Venture capital funding in the realms of digital healthcare topped EUR 4.6 billion for the first time in the first half of 2019.[3] Since 2010, digital healthcare companies have raked in a total of over EUR 36 billion. No fewer than 371 transactions took place in the first quarter of 2019 alone, 78 of them in Europe. Two of the most spectacular ones were the merger of online pharmacy CVS with health insurer Aetna (EUR 63 billion) and Amazon's acquisition of online pharmacy PillPack. Lately, heavy investment has been reported by health insurer Collective Health (EUR 395 million), by Tempus, one of the world's largest databases for clinical information (EUR 473 million) and by Encoded Therapeutics, a developer of viral therapies for genetic diseases (EUR 95 million). The stand-out acquisition in Europe in 2018 was drug company Roche's purchase of Flatiron, a cancer data analytics specialist, for EUR 1.7 billion.

2. HIGHER CUSTOMER EXPECTATIONS

Consumers are already reaping the benefits of digital innovations in many walks of life, from online shopping to travel and mobility. Logically, therefore, they also expect healthcare companies to come up with tailor-made digital processes that add value and make life easier. Three out of four insured persons thus see the electronic patient file as a good idea, while more than a quarter (27%) already use digital self-assessment offerings such as fitness trackers, heart rate monitors and online health coaches.[4] Ever more professional apps – some of them based on artificial intelligence – supply customers with self-diagnostic aids, therapeutic systems and tools that accompany their illness, for example, in a market

3) Mercom Capital (2019): 1H and Q2 2019 Funding and M&A Report, Austin.
4) Techniker Krankenkasse (2018): Homo Digivitalis: TK-Studie zur Digitalen Gesundheitskompetenz 2018, Hamburg.

that has been growing very rapidly for years. Recent data put the global volume in 2018 at around EUR 1.3 billion, which could rise to EUR 16 billion in 2025.[5]

Estonia, one of the countries pioneering digital public services, has already successfully established an e-health system that has been well received by the population. The system integrates a variety of healthcare databases and services, as well as facilitating secure access to medical data and services. Citizens who use the service each have an electronic ID card containing data about medicines they use, allergies, blood group and previous treatments, for example. In an emergency, this information can be accessed directly and, say, forwarded from the ambulance to the hospital to ensure that suitably qualified doctors, nursing staff and resources are quickly ready and waiting. Blockchain technologies are used to protect the data, and citizens themselves can access their data via an online platform at any time to check whether anyone has gained illicit access to it. 99% of all healthcare data in Estonia is already digitalized. And because the system is so widely used, scarcely any non-digital prescriptions are used these days. Finland, Azerbaijan and Namibia are currently developing similar concepts.[6]

5) Zion Market Research (2019): Artificial Intelligence in Healthcare Markets by Offering, by Technology, by Application and End-User, New York.
6) Bauer, C. (October 29, 2018): Estland als Digitalisierungs-Vorreiter, Ärzte Zeitung online, Neu-Isenburg.
7) Abbreviation for Google, Amazon, Facebook, Apple and Microsoft.
8) Baron, J. (September 11, 2019): Apple Announced Three New Healthcare Studies And Now Is The Time To Ask Hard Questions, Forbes, New York.

3. DISRUPTORS CHANGING THE MARKET

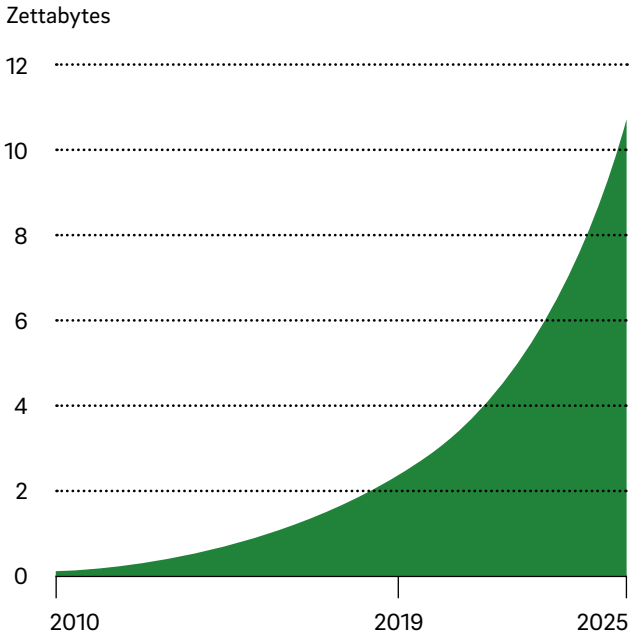
The Good Doctor platform run by Chinese insurance and finance group Ping An is currently working with 14,000 hospitals and pharmacies to build a dedicated ecosystem spanning around 200 million users. One expression of its ecosystem is the completely unstaffed One-Minute Clinic. On a display screen, users can communicate with a computer-animated virtual doctor who prepares initial diagnostic proposals that are then reviewed by (human) doctors. The company says the AI was developed by 200 experts who trained it using data from more than 300 million visits to doctors.

The big-five GAFAM[7] tech corporations from America have likewise grasped the vast potential of the healthcare sector. In cooperation with Berkshire Hathaway and JP Morgan, Amazon has already launched its own health insurer. Meanwhile, a Facebook research department is working with the radiology unit of the New York University School of Medicine to advance fastMRI, a project exploring how AI can be applied to MRT scans to generate high-quality images from limited data. Early in 2019, Google announced that its life sciences division Verily had stumped up EUR 0.9 billion from investors to finance further acquisitions. At the same time, Apple announced the launch of three medical studies with respected partners such as the Harvard T.H. Chan School of Public Health and the University of Michigan. The trials focus on tracking menstrual cycle data, analyzing ambient sound exposure information and analyzing movement and heart rate data via the Apple Watch.[8]

Yet things are also beginning to happen on the German market. Numerous players are hooking up with start-ups to market better digital solutions at every link in the entire therapeutic chain. Leading players in the pharmaceutical industry and health insurance sector are teaming up, requesting proposals for innovation programs to

ensure that better support is provided to startups' innovative solutions. In the shape of the Digital Healthcare Provision Act (DVG), which comes into force in 2020, federal government wants to ensure that digital treatments are refundable. But the new law will also enable statutory health insurers to invest in innovative and digital companies. Hospitals too are acquiring stakes in startups and testing their solutions in pilot projects.

B: Global data volume growth in healthcare
Five-fold increase from 2 to 10 zettabytes by 2025



Source: https://www.seagate.com/files/www-content/our-story/trends/files/idc-seagate-datcon-healthcare.pdf, Roland Berger

4. GROWING DATA VOLUME

According to estimates by the International Data Corporation (IDC), the global data volume in healthcare will increase by a factor of five between now and 2025.[9] → B Growing demand for digital healthcare services and more and more success stories in both personalized medicine and genomics are driving this development. The market volume for AI-driven healthcare IT applications look set for a compound annual growth rate (CAGR) of 68.5% through 2022.[10] Many companies are working hard to make available the computing power and storage capacity needed to handle the mushrooming volumes of healthcare data. This development, linked to the spread of connectivity between all healthcare stakeholders, is giving rise to a completely new ecosystem with tremendous potential.

A new dynamism has emerged across the whole of the healthcare sector – an impression vigorously affirmed by the industry experts we surveyed.

9) Reinsel, D.; Shegewi, M.; Gantz, J.F. (2018): Healthcare: DATCON Level 3, An Industry with a Weak Data Management Pulse, ICD, Framingham.
10) Prediction by Frost & Sullivan (2019).

2. Our survey of experts

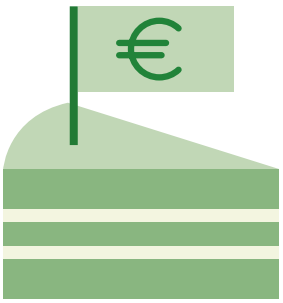
What will change between now and 2025

In our recent survey, we asked 400 healthcare experts to give their views on how digitalization will continue to develop in the industry. The panel mirrored all relevant stakeholder groups across the treatment chain, including patients, doctors, hospital managers, private and statutory insurance companies, the pharmaceutical industry and medical engineering. The majority of respondents were from Europe (40% from German-speaking countries, 40% from other European countries and 20% from non-European countries). The survey took place in March and April 2019. In a second phase, the findings were validated in individual interviews with leading representatives of the industry.[11]

1. A MARKET WORTH BILLIONS

The majority of respondents expect to see radical upheavals as early as in the next six years. Their view is that, by 2025, spending on digital products and services in the healthcare sector will increase to about 8% of total healthcare expenditure.[12] That would put the market volume for digital health at roughly EUR 38 billion in Germany alone and at something like EUR 155 billion for the EU.[13] → C

C: In 2025, digital health will account for 8% of the overall healthcare market



8%

of total healthcare spending will go on digital products and services.

Size of the digital health market

Source: http://intelligencejournal.com/europe-digital-health-market, Roland Berger

11) When interpreting the findings discussed below, it is important to be aware that, in this kind of survey, estimates of the changes associated with future developments are normally more likely to overestimate what will actually be implemented than to underestimate it.

12) This figure represents the mean of the experts' estimates. While our survey asked about estimates at different points in time, we have emphasized 2025 as a reference point because this particular milestone is already of relevance to what all stakeholders are doing today.

13) The overall market for digital health may actually be even bigger, because many aspects of health spending that were analog in the past are now also being digitalized.

→ No one can yet say whether these figures will be generated as additional volume, by substituting other spending volumes or as a mix of the two and in what ratio. For providers of digital solutions, it is nevertheless clear that this market will present huge opportunities. Health insurers will play a dual role as they will have to both finance digital solutions and offer such solutions of their own. With this in mind, they are well advised to keep an especially close eye on ongoing market developments.

To put that in context: The medical engineering industry in Germany took many decades to break the EUR 30 billion revenue barrier, which it did for the first time in 2018. The fundamental precondition for similarly rapid development in digital health is to have sufficient digital products and services available. After all, even just the EUR 16 billion market forecast for AI-based healthcare, diagnostic and self-monitoring apps by 2025 is there to be serviced. It is also reasonable to assume that many services will in the future be offered to people as add-ons in the emerging secondary healthcare market (i.e. the market for self-pay patients). Old and new providers alike who are currently working on innovative solutions for the healthcare market, or whose solutions are approaching market readiness, thus have an excellent chance to translate their visions into reality.

2. TECHNOLOGIES DRIVING THIS DEVELOPMENT

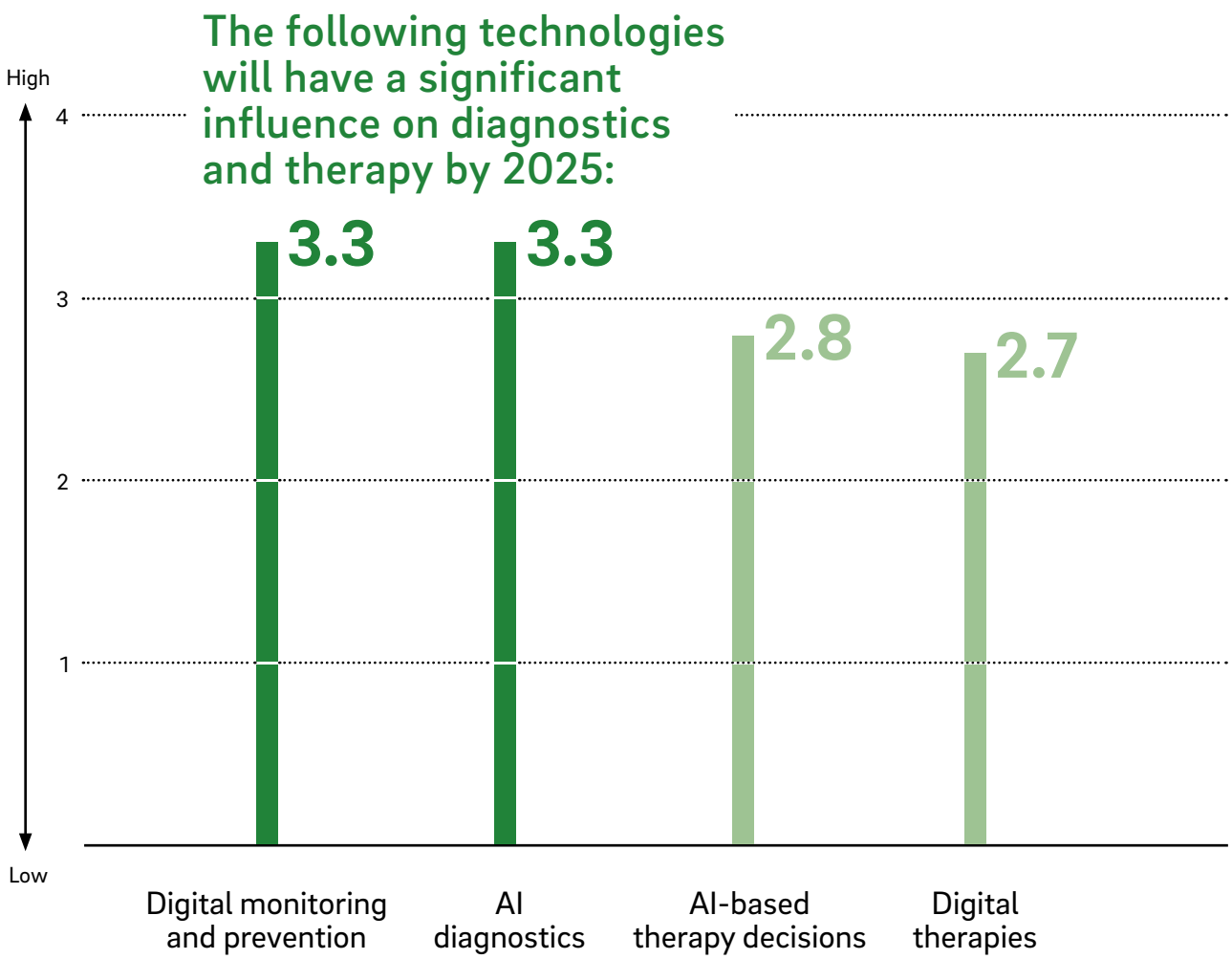
Technology is the most important disruptive factor in healthcare, and this is where our survey respondents anticipate the most far-reaching changes. Alongside the traditional digital innovation cycles observable in other industries too, and on top of the growing share of technological content in the healthcare sector, which is rapidly advancing in the US and China in particular, artificial intelligence (AI) likewise has a crucial role to play. The experts surveyed see the greatest potential for AI applications in digital monitoring, prevention and AI-assisted diagnostics. On a scale of 1 (little influence) to 4 (considerable influence), they predict a score of over 3 in both segments. → D If this assessment is true, AI will have a significant influence on therapy decisions and the implementation of therapy by 2025, albeit not quite to the same extent that will materialize in diagnostics.

30%
of treatment will be accompanied by **individualized therapies.**

40%
of treatment will be supported by **digital twins** to perform virtual tests of therapies before they are applied.

Especially for patients with rare diseases or cancers, genome analysis and genome editing will pave the way to new and effective therapy options. Nearly 70% of respondents thus expect genome analysis to bring significant to very significant changes to the healthcare market by 2025. They believe that genotyping will be complete for around 20% of people by then. Given that this technology will mainly be reserved solely for serious illnesses, that is a very high proportion. At the same time, AI will in the future continually improve the diagnosis of common illnesses and has already shown itself to be very reliable in the analysis of imaging techniques. All of these developments indicate that the use cases for AI will expand further.

D: The potential of selected technologies for diagnostics and therapies
How do you evaluate the potential of the following technologies to change the healthcare sector by 2025?



Source: Roland Berger

Backed by new digital technologies, personalization too will be influential in pushing medical care in the direction of "tailor-made therapies". The respondent experts expect personalized therapies to already be used in 30% of cases in 2025. Digital twins[14] will be utilized in 40% of cases to simulate therapies before they are applied to the patient.

→ These examples alone illustrate the sheer breadth of practical applications for new technologies such as artificial intelligence. Above all, they highlight the vast potential of these technologies. Germany alone chalks up around 20 million hospital stays a year, of which 13 million involve conservative measures (i.e. treatments without surgery). If personalized therapy were to be applied for every third such case, that alone would mean four million instances. As things stand, it is hard to say when digital twins will become established in basic healthcare as they are still very expensive to use. For the time being, they will probably be deployed solely for very serious (chronic) conditions or a certain patient cohort.

61%

believe that **tech giants** will be an integral component of the healthcare system in 2025.

In the years ahead, the growing influence of AI is also likely to impact on the direct relationship between doctors and patients, with the most extensive changes expected in administration and diagnostics. "The biggest challenge to the delivery of personalized medicine is developing scalable solutions that can be used and rolled out in an integrated form across data pools, medical facilities, different diagnostic measurement methods and national borders," said the CIO of one leading global diagnostics company.

3. CHANGING PLAYERS AND THEIR CHANGING ROLES

Digital technologies are not only penetrating new markets and therapeutic concepts, however. They are also changing the roles of the providers that operate in the healthcare market. In the years ahead, corporate groups such as Amazon and Google will thus operate as equals alongside traditional players on the healthcare market. The majority of the respondent experts believe that the tech giants will be an integral component of the healthcare system in 2025 – just as health insurers are today. Amazon is just one example: Via its Amazon Care health program, the company plans to make treatment available to its staff through the agency of a virtual GP or hospital.

Going forward, health insurers will likewise play a far bigger role and will much more actively steer insured parties – in the direction of networks of preferred providers for diagnostics and therapies, for example. Nearly 80% of the experts surveyed assume that this will already be the case in 2025. Almost every second respondent also expects that, in the same period, insurers will begin offering digital diagnostic and therapy

14) A "digital twin" is a virtual model of a patient produced on the basis of the patient's DNA. Computer tests run on this "digital patient" can simulate how a human body reacts to a certain medicine or therapy.

support – and that customers will make use of these offerings. On the other hand, only one third believe that insurers will, by 2025, succeed in substantially reducing the incidence of lifestyle diseases by means of direct influence on patient behavior. → E

Meanwhile, digitalization will add to the burden of proof for the pharmaceutical industry: 40% of respondents expect that artificial intelligence will be used to a large or very large extent to monitor the effect of medicines. In the future, they also expect drug prices to depend heavily or very heavily on measured actual effectiveness. Here again, the importance of real-world data – the use of routine data to assess the benefits of medical treatments – is set to increase.

The main difference is that the importance of data from clinical trials will decline in favor of data that provides real-life evidence. Many questions in this area remain unanswered, however. The strategy manager of a leading pharmaceutical company expressed his concerns as follows: "How do you keep the producer of a medicine that is proven to be effective from being punished because a patient lives a lifestyle that is not aligned to their disease?"

General practitioners too are under fierce pressure to change. 41% of the respondent experts expect hospitals to penetrate the market for outpatient care, while 61% expect global telemedicine providers to do likewise. At the same time, participants in our study reckon that, by 2025, 20% of medical services will have been replaced by artificial intelligence – a view shared by doctors themselves.

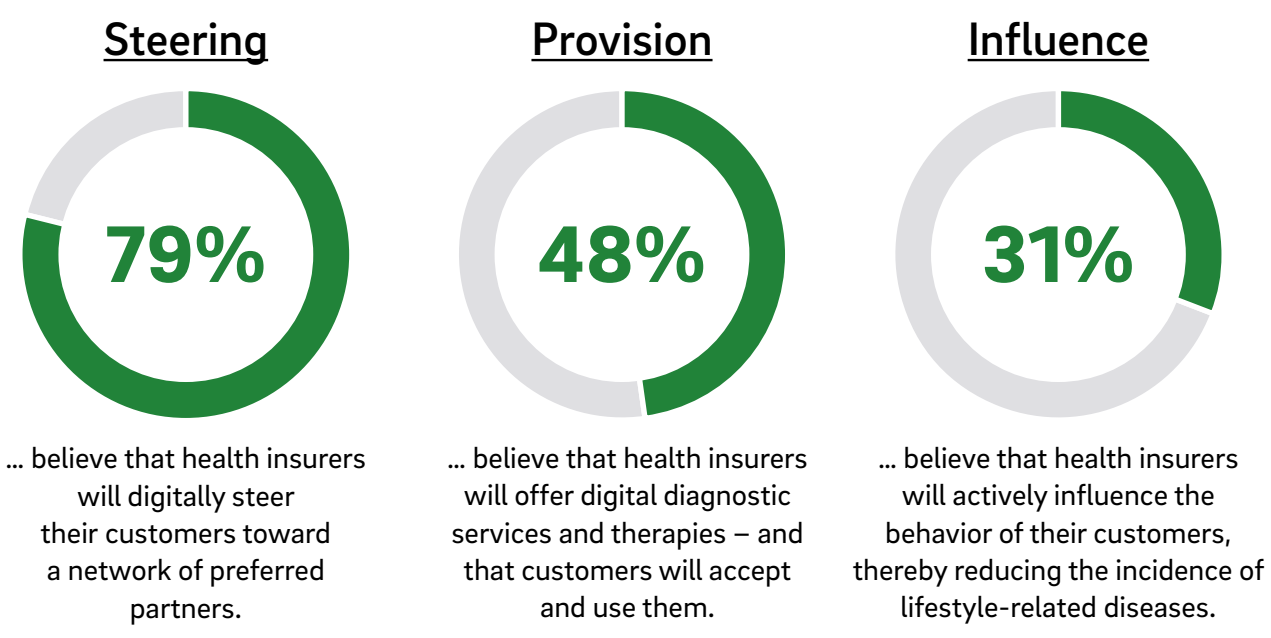
→ It is reasonable to conclude that new players such as GAFAM will play a growing part in healthcare. What is less clear right now is exactly how large a slice of the

"The biggest challenge to the delivery of personalized medicine is developing scalable solutions that can be used across every border and boundary."

CIO of a leading global diagnostics company

cake they will ultimately get. Some experts take the view that the tech groups will mainly use cooperative arrangements to become established on the healthcare market, and that they will soon be regarded as equals with traditional healthcare players (which would, of course, put the latter under increasing pressure). For example, the first set of initiatives to deliver services to service providers have already been launched (e.g. by Amazon in the field of imaging). To date, though, Internet companies have had to content themselves with an intermediary role, which they can assume for mail-order pharmacy and data analytics services, for example. Here again, Amazon is already planning to prescribe medicines via its virtual GPs and then deliver them directly. By consequence, all providers on the healthcare market must brace themselves for Google and the rest to sooner or later step onto "their turf".

E: Future models for the role of health insurers
Which developments do you see as likely?



Source: Roland Berger

4. DATA EXCHANGE GROWING, PLATFORMS GAINING A FOOTHOLD

Seven out of ten survey respondents expect that patients will make their health data available to their insurer. Health insurance companies could, for example, reward such behavior with lower premiums. Six out of ten respondents also believe that patients will still retain full sovereignty over their health data. 65% of respondents assume that the various market players will align their IT systems, thereby laying the foundation for the greater exchange of data on relevant platforms. However, it is not yet clear whether and how the legal framework will change to accommodate these developments: Just under half of respondents believe that the law will permit an increase in the exchange of confidential health data in 2025.

→ The regulatory frameworks in Germany and Europe differ considerably from those in the US and China. Be that as it may, the trading of health data for more attractive rates will become more widespread, although implementation will not always be easy. Asked where they feel their electronic health data are in good hands, respondents came out resolutely in favor of public institutions: 38% want the government to administer the data,

"How do you keep the producer of a medicine that is proven to be effective from being punished because a patient lives a lifestyle that is not aligned to their disease?"

Strategy manager of a leading pharmaceutical company

20%

of the work of doctors will be replaced by **AI/robotics**.

while 33% can also imagine this role being entrusted to established insurers. 29% at least can also envisage having health data entrusted to private enterprises. → F

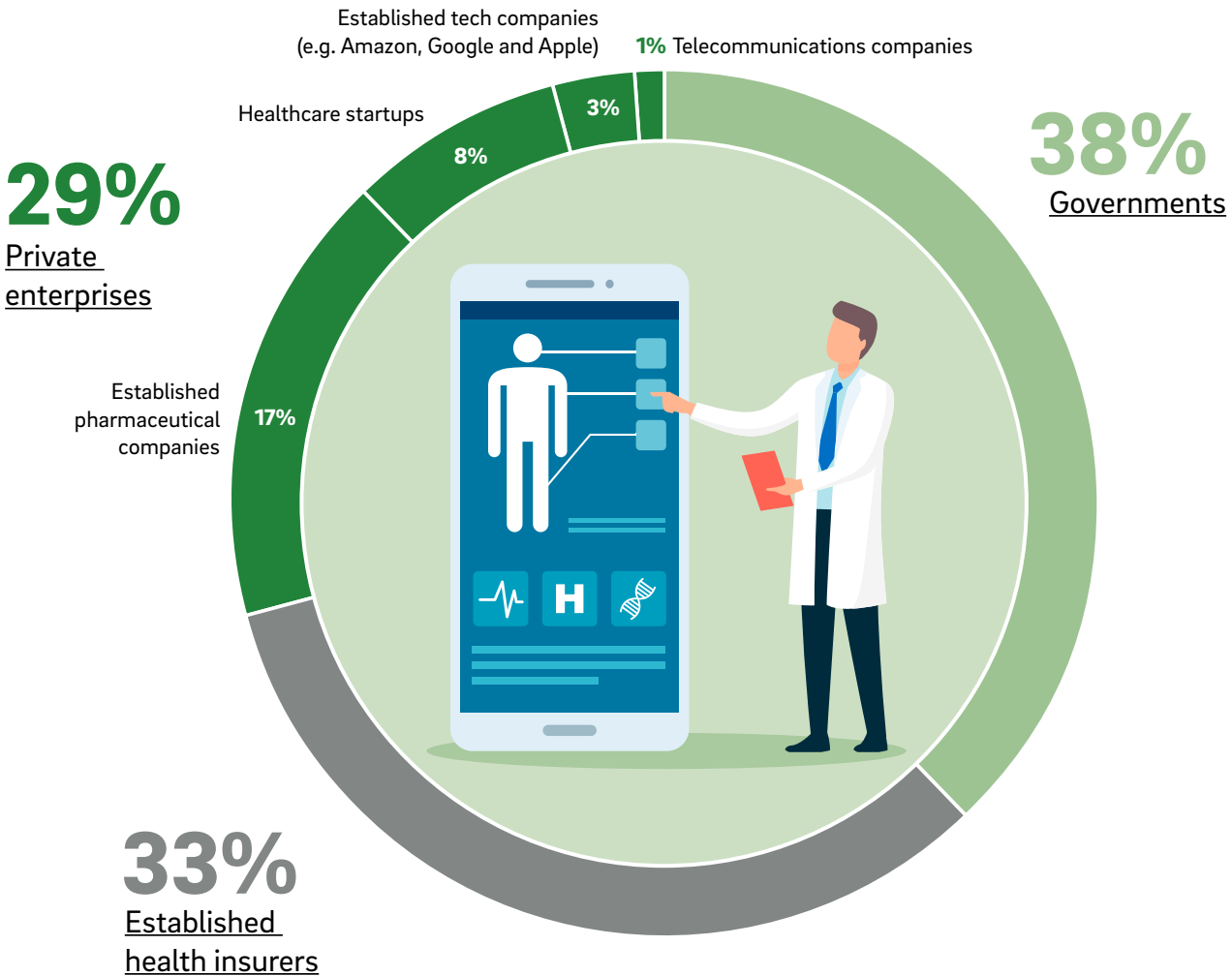
70%

of respondents think
that patients will
share their data with insurers
in return for lower premiums.

Speaking for the pharmaceutical industry, various respondents note that patients should retain ultimate sovereignty over their personal data. That creates a stronger incentive to compete for the best, most patient-oriented solutions: Only the provider with what patients see as the optimal solution will be entrusted with their data. Another indicator of the growing importance of patient behavior is the view – backed by nearly 80% of respondents – that digital coaching and lifestyle changes will alter the healthcare market. In the US, Vitality Health became the first health insurer to offer lower premiums where analysis based on data tracking supplies evidence of a healthy lifestyle.[15] At the same time, only one third of respondents believe that insurers will be able to significantly reduce the incidence of lifestyle-related illnesses by active steering measures. It is therefore reasonable to conclude that the stimulus for a healthier lifestyle comes from other players. The Internet giants could once again assume an important role on this score, as indeed consumers themselves can.

15) Marr, M. (May 27, 2019): This Health Insurance Company Tracks Customers' Exercise And Eating Habits Using Big Data And IoT, Forbes, New York.

F: Preferred keeper of data for the electronic patient file
Which organizations do customers see as best suited to keeping their electronic patient files in 2025?



Source: Roland Berger

3. Responses

How are selected players preparing for the transformation?

Moving on to how the different market players are reacting to this changing environment, our survey produced a very patchy picture overall. While many prefer to "wait and see", others have already launched quite radical initiatives:

→ **One leading German hospital chain,** for example, has set itself the goal of generating two thirds of its future revenue with digital therapies. To this end, it is pulling out all the stops to transform itself into an integrated digital healthcare consultant. Along the way, the company has set about fully digitalizing all processes with a view to enhancing the quality of medical care and easing the burden on medical staff. A large chunk of its planned investment will be channeled directly or indirectly into digital matters. Management sees the biggest benefit for healthcare provision in the aggregation and use of patient data. The use of artificial intelligence improves the accuracy of diagnoses based on x-ray images, for instance.

→ **A leading health insurer** is already using AI to optimize internal processes and deliver better service to the people it insures. To do so, the firm cooperates with the provider of an AI-assisted diagnostic app.

→ **Alongside other pioneering health insurance companies** from the US, initial providers in Germany and Europe too are now responding to changed customer expectations with digital services. One insurtech startup communicates with its insured customers mainly via an app. When the preferred doctor, the direction of treatment, the place and the time are specified, the system automatically sends an inquiry to the corresponding medics. Via standard interfaces, appointments are arranged or alternatives proposed very quickly. Customers then receive immediate confirmation on their smartphone.

→ End-to-end digitalization is also on the advance among **general practitioners**. More than 100,000 practices in Germany already use electronic appointment services. In the future, electronic doctor's letters will also be sent directly from the GP's administration system to mobile devices. Additional data, such as laboratory findings, medication schedules, x-ray images, vaccination certificates and referrals can be forwarded as attachments.

→ **One leading global pharmaceuticals group** has set up a digital data room where information from drug trials conducted at more than 10,000 study centers around the world all comes together. Researchers can follow the progress of trials on screen and in real time. Other pharmaceutical manufacturers are cooperating with AI companies, the aim being to harness machine learning to more quickly find suitable substances for the development of new drugs. By snapping up a US company, one Swiss corporation has gained access to the structured data of some two million cancer patients. The hope is that analysis of these data will lead to improved therapies. What are known as digital therapeutics (DTx) also have considerable potential: This therapeutic method draws on digital technologies to treat or prevent physical or mental illnesses by means of changes in behavior and/or lifestyle. The use of relevant tools generates health data that can then be re-analyzed, leading to individual recommendations. Digital therapeutics already exist for a variety of conditions such as diabetes mellitus, heart failure, obesity, Alzheimer's, depression and anxiety disorders.

→ **Medical engineering** is likewise facing up to the digital transformation. A global manufacturer of prostheses gives users an app that lets them configure their prosthetic device to suit their preferences – adapting the speed and rotation of a hand, for example. AI facilitates

G: New role models on the healthcare market
Growing importance of cooperative ventures and players from other industries

Source: Roland Berger

intuitive control of the app. And throughout the industry, innovations in sensors, diagnostics and data processing are spawning new, data-driven services and business models. Some companies are already using acquisitions to actively tackle the hospital sector. The aim here is to cover more and bigger links in the value chain – from hospital IT to service provision – going forward.

We must nevertheless beware of creating a misleading impression. Not all players and companies are as industrious and inventive as those referred to here. That, however, is likely to change in short order as the pressure to act increases. When new business models come in and the value chain is carved up anew, if not before, there will be new battles for the interface to the customer, which no market player will be able to escape. The redistribution of market shares will be the key issue, though not the only one. Companies must look carefully at how they can make themselves fit for the healthcare market of the future. → G

"The big tech players are focusing on the mass market for application-oriented medicine. They will use selective cooperative ventures to gain a foothold in this market."

Board members of leading healthcare companies

4. Adaptive, agile and user-centric

Roadmap for the digital transformation

The views expressed by the experts surveyed make one thing abundantly clear: Far-reaching changes are in the pipeline for the healthcare market. Other events and/or factors of influence could further amplify the transformational dynamics already in progress. It is, for example, conceivable that one of the major tech players will successfully break into the market. Facebook's Libra project for a new digital currency is one of several initiatives demonstrating that the US tech giants do not shy away from even heavily regulated areas such as the government's monopoly on currencies. Another not unlikely scenario is that of an established player cooperating with tech companies to gain a crucial competitive edge. In Germany, the Digital Healthcare Provision Act (DVG) is already opening the door to such possibilities. The new law will allow health insurers to invest in startups and, for example, to collaborate with technology firms. Yet it is just as likely that, in a less heavily regulated future market, an incumbent player could pioneer digital innovations under its own steam.

There is no way of knowing today which, if any, of the scenarios discussed will actually materialize by 2025. One thing is clear, though: The majority of players anticipate fundamental changes and/or are already working to make them happen. Our strategic guidelines for the digital transformation outline the key success factors:

#1 CULTIVATE A WILLINGNESS TO CHANGE

While there is obviously a technological dimension to digitalization, its cultural dimension is equally important. The two sides need each other: If companies are not open to radical change, they will never successfully master the digital transformation. The biggest challenge is therefore to foster a culture that welcomes and enables the transformation to a digitally mature organization. Innovative change management strategies that put people at the center and encourage new ways of working on all levels simplify the process of adaptation. To do so, encrusted structures and silos must be broken up, hierarchies must be dismantled and agility must suffuse the way people think and work.

Our experience shows that a digital transformation project only delivers lasting success if management and employees alike make permanent changes to their behavior. The most powerful source of motivation is a sense of belonging to a group – in this case, a team comprising the staff and their boss. If everyone is convinced by the case for transformation, it will work. But beware: Before new behaviors are introduced, it is vital to clearly define how the company as a whole plans to develop in the future. The new value proposition mapped out by a health insurer or an industrial company could, for example, see them transform into a data or tech company.

#2 ESTABLISH EARLY-WARNING SYSTEMS AND DARE TO THINK RADICAL THOUGHTS

Companies and providers in the healthcare sector must develop more sensitive "antennas" for the changes going on around them. Building on that sensitivity, they also need early-warning systems. Scenario planning tools help players better assess the consequences for the market and their own competitive position. For example, one consequence could involve acquiring technological skills in certain areas. Another could entail teaming up with pioneers, or systematically setting up a dedicated ecosystem so that ideas can be developed more quickly and fast tracked to market readiness.

As a basic rule, companies should work on the assumption that their markets will experience radical, disruptive changes. Tech players could emerge as direct competitors to incumbent firms, be it in research, diagnostics, therapy or the operation of a dedicated healthcare platform. That is why companies must also be willing to radically alter their business models. Do they need to occupy new or additional links in the value chain, for instance? In other words, do they need to rethink entire processes? As things stand, few players can yet match up with one leading healthcare company whose stated aim is to digitalize all its processes.

#3 FOCUS ON CUSTOMER AND USE CASES

Faced with a confusing multiplicity of options, healthcare players must ask themselves which ideas and projects are really going to drive digitalization and should therefore be prioritized. When doing so, providers must align themselves more closely than they have done in the past with the needs and wants of both healthy and sick patients: They must focus on concrete applications and use these as a launch pad for a rigorous reorientation. The B2C segment – such as the consumer goods industry, where very frequent customer tests are commonplace – shows the way forward: Projects that fail to deliver must be wound up quickly and without complications. At the same time, simply trying things out and gathering experience – especially through failure – needs to become more normal. In a healthcare context where strict regulations and quality assurance combine with many standardized processes, it is not always easy to take this path in practice.

Prioritized applications should be defined, complete with standardized descriptions for all their many facets. This is important because, for the time being, a generally valid solution to interoperability issues in healthcare remains unrealistic. Health insurers need to go digital not only with their core competencies: They also need to develop new services and business lines – in data analytics, for example, and in the modeling and development of innovative services based on data analytics. Private health insurers must continue to focus on risk selection and underwriting. And in the pharmaceutical industry, vast potential for R&D in particular is being opened up by big data and artificial intelligence. Accordingly, companies that conduct research must in the future factor more parameters into their study designs and produce more meaningful analyses of these designs. One reason is that they ultimately need compelling arguments for new developments, in line with the principle of value-based medicine.

Despite all the forthcoming changes, it is critical to ensure that healthy and sick people alike retain sovereignty over their data. That, at least, is a clear finding from most of the empirical studies conducted to date in Europe. Amazon and Google could play a prominent role in bringing together hitherto unused medical and consumer data. But European players too will catch up: One health insurer in Germany is already charting this course by linking tracking data to routine data.

#4 ADAPT NETWORK LOGIC AND MAKE USE OF COOPERATIVE VENTURES

Experience shows that the more radical the transformation, the more pressure will be placed on roles that have become ingrained over the course of decades. The mobility transition in the automotive industry, for example, has created a situation where former rivals now work together in many areas. The same thing will happen in healthcare. And this

means that the various players must operate more as trend scouts, keeping a lookout for cooperation partners who usefully complement their own capabilities. Alternatively, it is also conceivable to adapt procedures and models that have already become established as the standard in other disciplines.

Incumbent stakeholders too must increasingly think in terms of ecosystems, even with hitherto unaccustomed partners – not least in order to selectively accumulate technological and data skills that let them cooperate to scale up new business models. This approach can be compared to that of public transport associations in Germany that create joint platforms for all timetables and tickets and regulate access to customer data. A central delivery platform could conceivably provide a similar service in the healthcare sector: a database in which anonymized patient data are stored and analyzed in order to facilitate the best diagnostics, therapies and aftercare.

Initial practical approaches already exist as innovative forms of cooperation and networks in healthcare. One focus in particular is on occupying the interface to the customer and tapping new areas of business. Cooperative networks with doctors would be one possibility in the pharmaceutical industry, but so too would partnerships with major tech players to improve access to patients. In medical engineering, the issue is to join up the entire supply chain: Companies could look for integrated solutions together with healthcare service providers, using this strategy to better establish services relating to the product in question.

#5 STAY REALISTIC

For all the euphoria, it is important not to lose sight of economic necessities. As in the past, many interesting and/or innovative ideas in the realms of healthcare will not be implemented simply because they yield no measurable benefits. It is therefore all the more critical to expose each and every digitalization project to regular reality checks. Good ideas will evolve into lasting success stories only if both providers and customers stand to benefit. Using a Digital Maturity Index to evaluate ongoing digital projects is a good starting point for this kind of review cycle. Such an index records operational and strategic project outcomes and benchmarks them against similar projects.

Of one thing there is no doubt: The digital transformation is gathering pace, and the first wave has long since swept over the healthcare sector. Those players that move quickly to chart the right course give themselves excellent opportunities to ride the wave – rather than be washed away by it.

Credits and copyright

WE WELCOME YOUR QUESTIONS, COMMENTS AND SUGGESTIONS

The study was produced by the Roland Berger Healthcare team, which brings together experts from all areas of the healthcare sector.

AUTHORS

PETER CHOUEIRI
Partner

DR. MORRIS HOSSEINI
Partner

DR. THILO KALTENBACH
Partner

DR. KARSTEN NEUMANN
Partner

OLIVER RONG
Partner

CONTACT

+49 160 744-8274
digital_health@rolandberger.com

Other experts involved in the study: Dr. Michael Baur (Principal), Lennart Boesch (Principal), Dr. Ulrich Kleipass (Principal) and Dr. Peter Magunia (Partner)

Our gratitude also goes to the study team: Dr. Verena Reichl (Senior Expert), Dr. Vanessa Baehner (Project Manager), Svenja Dittmann (Project Manager), Simon Konieczny (Senior Consultant) and Joachim Weber (Consultant)

About us

Roland Berger, founded in 1967, is the only leading global consultancy of German heritage and European origin. With 2,400 employees working from 35 countries, we have successful operations in all major international markets. Our 52 offices are located in the key global business hubs. The consultancy is an independent partnership owned exclusively by 230 Partners.

Publisher

ROLAND BERGER GMBH
Sederanger 1
80538 Munich
Germany
+49 89 9230-0

RB_PUB_19_023