

The Siemens logo is positioned in the top left corner. The background features a series of concentric circles in shades of pink and red, with a central grey circular element that resembles a pulse or a stylized 'S'.

Healthcare Finance

# Taking the Pulse

How healthcare CFOs around the world are managing change

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# Management Summary

Healthcare systems around the world face a number of common pressures to transform.

According to this study, these pressures may be divided into four categories: demographic change; shifting patient expectations; requirement to reform; and the rising tide of healthcare technology trends and digitalization.

Chief Financial Officers (CFOs) at healthcare organizations across the globe gave an assessment of the severity of the pressures to transform:

- 60-70% of respondents reported that rising patient expectations, shrinking availability of capital, and the need to consolidate were all exerting "severe" pressure on their organizations.
- 40-50% of respondents noted a number of additional, emerging pressures were also already "severe", such as: implementing early detection; starting the transition from cost-per-procedure to (population) health management and value-based reimbursement models; and developing centers of excellence in order to compete better with rival healthcare organizations.

Investing in new-generation, digitalized healthcare technology is playing a critical role in enabling healthcare sector transformation:

- Almost 90% of respondents said that investing in new-generation, digitalized technology was "important", "extremely important" or "crucial" for their organization, with 70% describing investment as an "urgent priority".

Moreover, CFOs are exploring smart ways of financing those technology investments:

- Almost two-thirds of CFOs interviewed felt that innovative financing techniques – such as leasing-based and renting-based packages – were anywhere between "important" and "crucial" to their organization's ability to manage transformation.

## Methodology

Forty-three Chief Financial Officers in healthcare organizations were interviewed by phone in a qualitative research study between August and October 2015. The interviewees came from public and private healthcare institutions in the following countries: USA, UK, Germany, France, Spain, Sweden, Norway, Finland, Poland, Turkey, Russia, India, and China. Respondents were asked to give their views on the pressures their institutions were facing to transform (their nature and severity), the role played by new-generation technology (particularly, but not exclusively, digitalized technology) in enabling effective transformation, and the use of a range of financing techniques to enable that technology acquisition.

## Contents

Management Summary	3
Introduction	4
Smart Financing: the remedy for increasing pressures in healthcare	6
Pressure Category 1: Demographic change	8
Pressure Category 2: Shifting patient expectations	9
Pressure Category 3: The requirement to reform	10
Pressure Category 4: Trends in technology and digitalization	12
Managing the pressures – transformation in practice	14

# Introduction

All around the world, pressure is mounting to radically change and improve the way healthcare is managed and delivered. Underlying circumstances in each country differ: for example, in China, India and Turkey, healthcare infrastructures are being rapidly developed to make healthcare accessible and affordable for a wider range of people. In the USA, the Affordable Healthcare Act – along with parallel economic pressures – is driving consolidation among healthcare providers along the care path, the result of a transition to value-based reimbursement models. In Europe and the USA, rising demand for quality, coupled (in Europe) with economic austerity, is driving healthcare efficiency and effectiveness. In Russia<sup>1</sup>, root and branch reform that is centralizing the public healthcare system for greater efficiency has been struggling to achieve its goals in the light of economic challenges. This is fueling growth in the smaller, rapidly expanding private healthcare sector<sup>2</sup>.

While the origins of these pressures to transform may differ, the fact remains that healthcare systems around the world share a number of common challenges. Those pressures can be divided into four categories: demographic change; shifting patient expectations;

requirement to reform; and the rising tide of healthcare technology trends and digitalization. When combined, these various demands give rise to a major consequence – the need to invest in new-generation technology that is fundamental to managing healthcare transformation and delivering better, more efficient health outcomes. Of course, healthcare providers will always demand solid return-on-investment proof points for such technology investments.

This paper is based on conversations with CFOs in the healthcare sector in 13 countries around the world. Respondents were asked about a range of potential pressures for change and how severe they felt the pressures were in the four categories of demographic change, shifting patient expectations, requirement to reform and trends in technology and digitalization. They were then quizzed about new ways of working and new enabling technologies, along with the diverse range of financing methods and techniques they were adopting to achieve effective transformation in the new paradigm of healthcare delivery.

The following pages summarize their responses.

»Patients are more and more transferred to ambulatory care. We only keep patients with severe health conditions in hospitalization services. Therefore, the number of patients in ambulatory care has increased dramatically and hospitalization services have to deal with aging and helpless patients who need assistance.«

France, Private Health Clinic

<sup>1</sup>See, for instance:- Institute of Modern Russia, Health Care Reform as a Catalyst of Progress, 21 November 2014; United Nations Research Institute for Social Development, Constraints on Universal Health Care in the Russian Federation, 2015

<sup>2</sup>US Commercial Service, Healthcare Sector Development, Russia, 2014

»Day by day, we are being pushed toward high-technology equipment. Especially because of the advances in preventive diagnosis, we must invest in new machinery, and we will do so if we are to stay in business.«

Turkey, Private Laboratory

»People's expectations have risen, they demand good service. They need the best technology. At the same time they demand good prices.«

India, Private Hospital

»We need to spend more time looking into innovative [financing] solutions that could work in the future.«

USA, Private Imaging Center

»The need for smart ways of investing is a pressure because we have to compete with other medical organizations worldwide.«

Russia, Private Health Clinic

# Smart Financing: the remedy for increasing pressures in healthcare

## Pressures to invest in new-generation, digitalized technology...

such as imaging and diagnostics, IT infrastructure and electronic patient record systems or surgical automation.



### 1. Demographic change

Increasing and aging populations, changing diets and increasing wealth.



### 2. Shifting patient expectations

Rise in patient demand for quality of service and value for money.



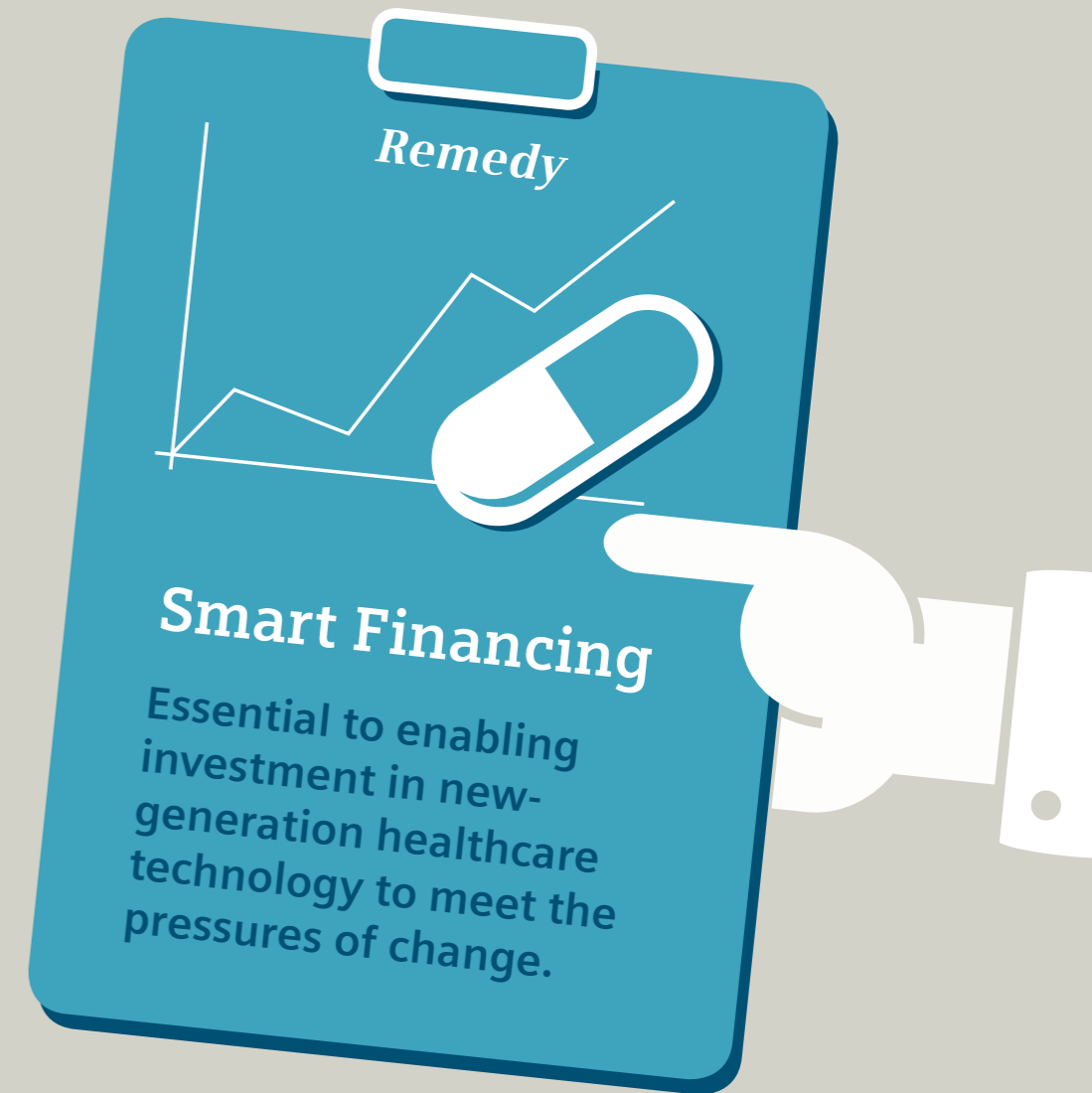
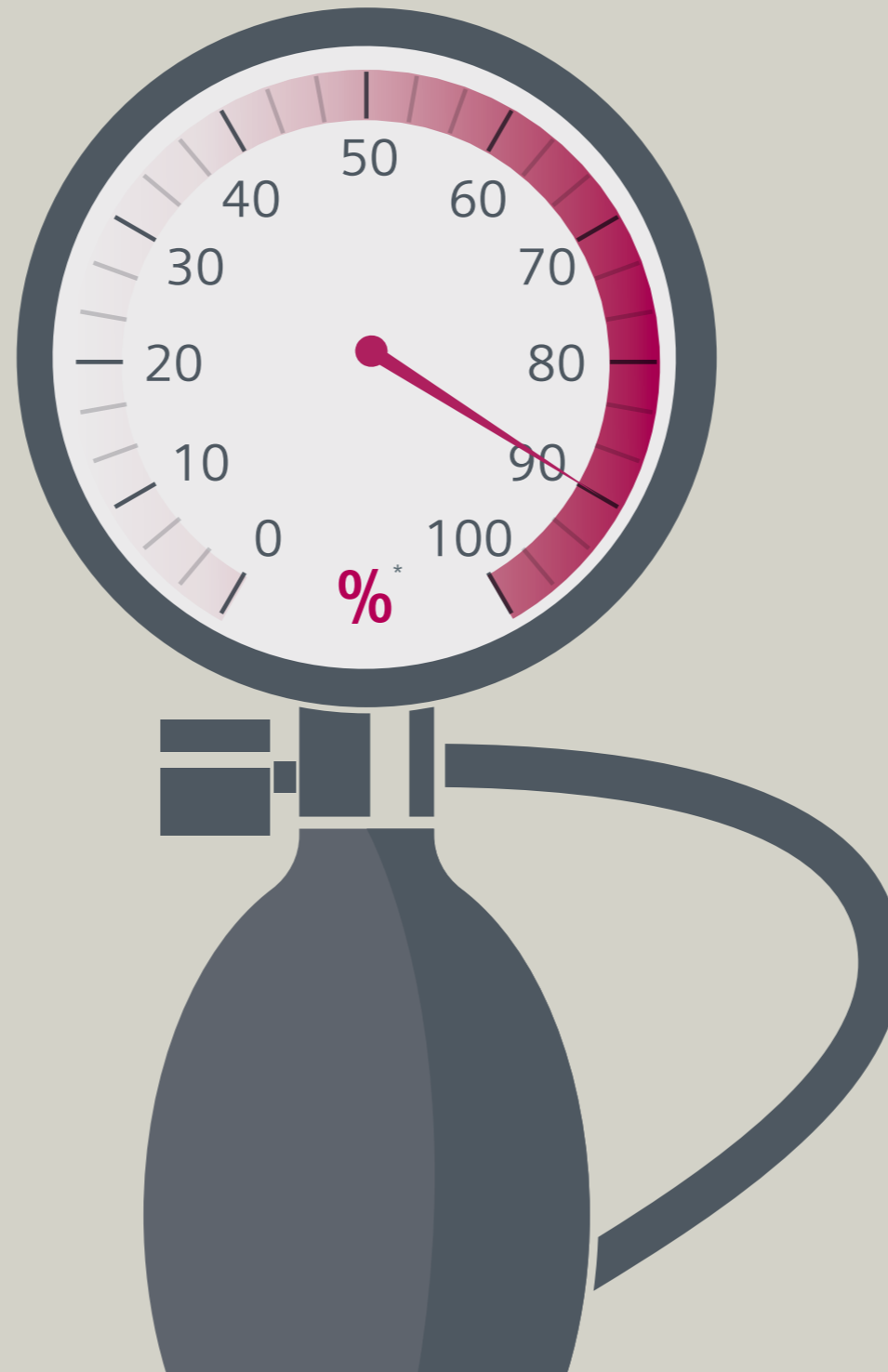
### 3. Requirement to reform

Increasing regulation and pressure to shift toward preventative diagnostics and wellness-based measurements.



### 4. Trends in technology and digitalization

Increasing need to move toward automation and standardization to increase patient outcomes and organizational efficiency.



\*% of respondents saying investing in the new generation, digitalized healthcare technology is 'important' to 'crucial'

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Pressure Category 1:

# Demographic change



»The aging population is our biggest challenge, because [if there are] fewer taxpayers, that equals a smaller income for the NFZ (national health fund), so we [will have to] face problems with financing and are going to have to make new ways of delivering health services.«

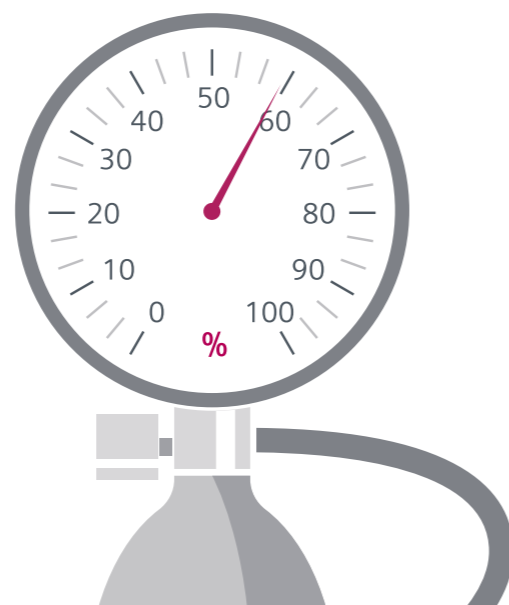
Russia, Private Medical Service Provider

The ways in which demographic and societal change is putting pressure on healthcare provision is well-documented.<sup>3</sup> Increasing global wealth is changing behavioral habits, such as diet. Increasing wealth in the middle classes means people are eating more high-fat, high-sugar foods, are consuming more meat products, and are smoking more (in developing societies), as such habits become affordable for them. This is leading to a rise in chronic conditions, such as diabetes and heart disease, along with – just as importantly – an increase in people’s ability to pay for all or part of their medical treatment. At the same time, the world is seeing increasing longevity, driving demand for the treatment of age-related conditions, such as cancer and dementia.

As population aging is such a well-recognized factor driving healthcare consumption and demand, this study first asked CFOs across the globe to rank the severity of pressure this universal factor was putting on their institution. Almost sixty percent of respondents rated population aging as putting a “severe” or “acutely severe” pressure and strain on their organization’s ability to deliver effective, quality healthcare. By understanding the impact rating that respondents put on population aging, the study was able to assess respondents’ relative scoring of the other pressures studied in this paper – pressures from rising patient expectations, pressures to reform healthcare systems and pressures exerted by technology trends. In other words, this point of reference allowed the study to demonstrate that the pressures for change were very broadly of a similar order to the well-attested healthcare impact of increasing longevity.

### Aging population

% of respondents saying 'severe' or 'acutely severe'.



<sup>3</sup> See, for example: PwC, Top healthcare industry challenges on 2015, Dec 2014; KPMG, Medical affairs under the microscope, Jan 2015; Ernst & Young, Health reimaged, 2015; et al.

Pressure Category 2:

# Shifting patient expectations

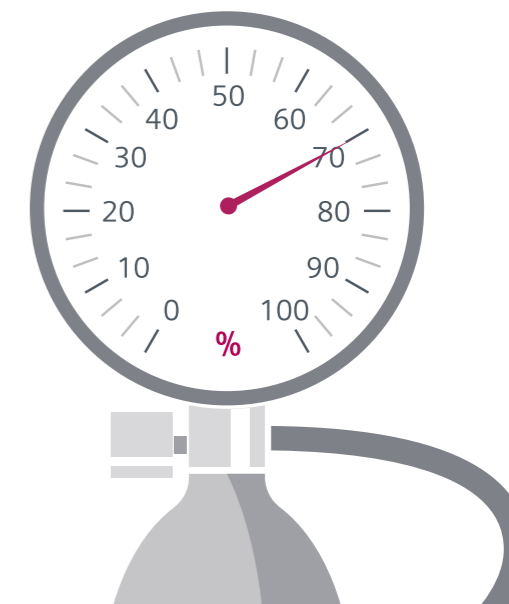


»People’s expectations have risen, they demand good service. They need the best technology. At the same time they demand good prices.«

India, Private Hospital

### Rising patient expectations

% of respondents saying 'severe' or 'acutely severe'.



### Rising expectations

At the same time, the rise in patient expectations is seen as an even more pressing challenge than aging populations (although they are interrelated) with seven in every 10 respondents classifying it as “severe” or “acutely severe”. Again, this is a consistently recognized problem among healthcare CFOs, even if it has different underlying causes. Increasing wealth and emerging conditions in Asia and the Far East – a major demographic change noted in the previous section – is certainly a main driver of rising patient expectations in these countries. Across the globe, increasing comorbidity rates resulting from aging populations also increase demand for treatments. However, in mature healthcare systems, rising expectations are equally the consequence of empowered citizen voices representing concerns over patient safety and clinical quality. People in Western societies are increasingly inclined to expect and demand improved value either from their tax payments or from their insurance premiums.<sup>4</sup> Indeed, there is a symbiosis between healthcare reform and expectations, with each successive legislative stage of patient rights and healthcare performance standards fueling increased awareness among citizens of their ability to demand more from the healthcare system. This, in turn, encourages them to do so, which then leads to further reforms.

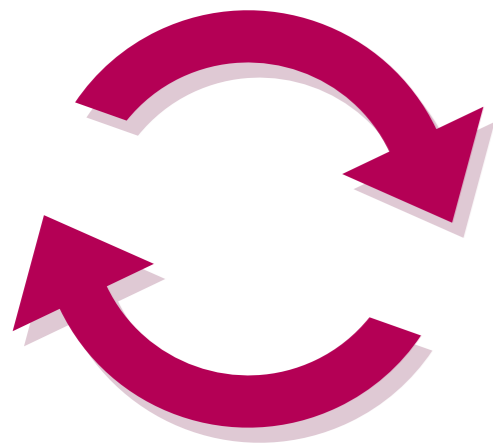
»[There is an] increasing demand for transparency from patients... [they] want to access their health records and [patient] organizations demand hospitals share their statistics and records.«

Spain, Public Hospital

<sup>4</sup> See, for instance:- Monitor, NHS Foundation Trusts tackle rising patient demand, 20 Feb 2015; Moberly T. Rising complaints against doctors due to changed patient expectations, researchers say. BMJ. 2014 Jul 21;349:g4754

Pressure Category 3:

# The requirement to reform



»The challenging and unpredictable healthcare environment has a big impact on planning and investing in future developments; it makes people very cautious and, in the worst cases, hinders and even prevents investing altogether.«

Finland, Public Hospital

### Constrained resources

In line with the severity of problems posed by aging demographics, leading healthcare CFOs note a similar level of concern over the challenge of accessing sufficient funds in a capital-constrained environment. Taxation-derived capital budgets are less and less equipped to fund necessary investments in infrastructure and technology as demands for healthcare access and quality rise, while budgets remain largely frozen (at least in mature healthcare systems<sup>5</sup>). Interestingly, both in rapidly growing healthcare systems (in China, India, Turkey) and in those struggling to do more with the same (Europe, USA, Russia), the need to consolidate institutions to obtain efficiency of service (serving wider geographies) is seen as a key consequence of capital constraints. Consolidation is also the result of the transition to value-based reimbursement (see next section). This is causing healthcare organizations to reexamine the overall value delivered down the whole healthcare pathway, from early detection and treatment, to long-term aftercare and follow-up.

»Our new law on financing hospitals will come into effect next year, introducing changes [that] will have considerable impact (partial reimbursement for services, less funding).«

Germany, Public Health, Welfare & Care Center

»I think what we need is integration between different units that have the same payer.«

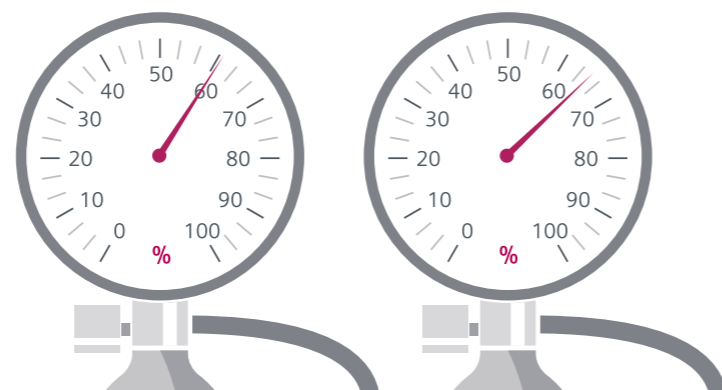
Poland, Private Medical Service Provider

### Shrinking availability of capital

% of respondents saying 'severe' or 'acutely severe'.

### Pressure to consolidate

% of respondents saying 'severe' or 'acutely severe'.



<sup>5</sup> See The Economist, The pause before the fast-forward, 10 Oct 2015

### Increasing regulation

Recognizing the rising tide of demand for healthcare access and quality, regulators and healthcare authorities are shifting the spotlight to new ways of working and new funding methodologies. A new emphasis is arising to focus on creating "well" communities through preventative activities in addition to making treatments of the "unwell" as efficient as possible. This modern concept of healthcare delivery and value is commonly known as (population) healthcare management.

The intention of such policies is to reduce the need for healthcare consumption at the root cause, and our respondents clearly recognize the need to start preparing for this future measure of performance. Respondents further underlined this trend with almost half considering their organization under "severe" pressure to implement the very specific tactic of early detection.

»The changing healthcare system is influencing the way we invest ... we are focusing investment on technologies that can generate more reliable diagnoses and reduce expensive invasive operations.«

France, Public Hospital

### Competition

Private-sector healthcare providers have always had to compete for patients, promoting the excellence, quality and safety of their institutions and services. Now, however, there is an increasing trend in many countries toward a form of internal competition in the public healthcare sector, allowing patients to choose alternative (higher-performing) hospitals in preference to their nearest treatment center.

As a result, almost half of respondents to this study regard the need to create specialized centers of excellence as a "severe" pressure on their institution. Certainly, there is greater scrutiny of performance by acute care institutions overall, with under-performance leading to public disapproval, fines and in some cases closure of a unit or facility.

»Outcomes are slowly being measured in terms of health improvement.«

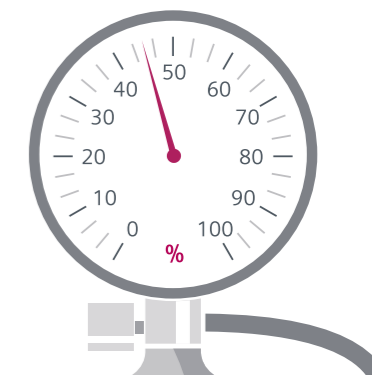
Spain, Private Healthcare Equipment Vendor

»Lack of access to capital financing is a severe pressure – we do need [alternative] funds to further develop our business.«

China, Private Hospital

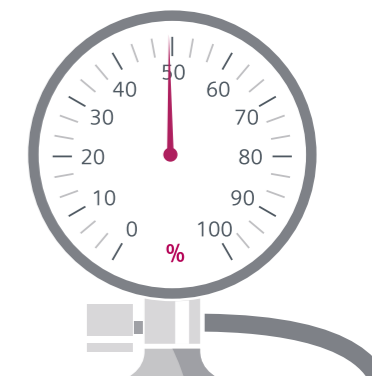
### Pressure to start transition from cost-per-procedure to wellness-based measurement

% of respondents saying 'severe' or 'acutely severe'.



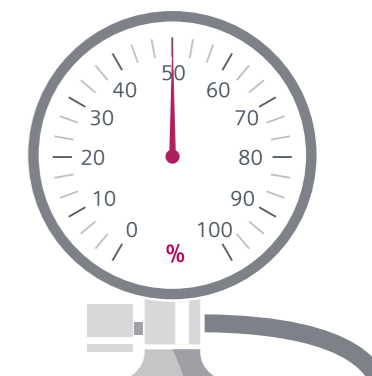
### Pressure to implement preventative diagnostics

% of respondents saying 'severe' or 'acutely severe'.



### Develop specialized centres of excellence

% of respondents saying 'severe' or 'acutely severe'.



Pressure Category 4:

# Trends in technology and digitalization



In order to meet and manage the factors described in the preceding section of this paper – constrained resources, rising patient expectations, fiercer regulation and increased competition – healthcare CFOs around the world recognize their need to invest in the latest technology. New-generation technology is seen as fundamental to successful and sustainable healthcare delivery, whether to make current ways of delivering healthcare more efficient, or to introduce radical new ways of delivering healthcare (such as through mobile services or telemedicine).

Across the globe, healthcare systems and authorities are recognizing the power of innovative technology to help them implement critical reform and improvement of healthcare delivery. Early detection has already been cited in this study as a major enabler of early intervention and reduction of expensive surgical procedures that also have a longer recovery time than minimally invasive treatments. To this end, increasingly accurate, sensitive and efficient diagnostic technologies are attracting a great deal of investment attention (see later Priority Areas for Investment section). Other healthcare technology changes are also likely to be rapid and disruptive to the current models for healthcare delivery<sup>6</sup> (although organizations still demand rigorous healthcare assessment to demonstrate that new technology leads to better outcomes or more efficient treatment/diagnosis). For instance, mobile healthcare (or m-Health) is predicted to

»We are dependent on new technology, in all kinds of areas such as monitoring patients, supporting surgical procedures and managing medication. Most importantly, new technology can reduce the occurrence of mistakes.«

Norway, Public Health Trust

grow almost tenfold between 2013 and 2018, to a value of some \$21.5 billion.<sup>7</sup> IT and medical technology seem to be intersecting to produce techniques such as 3D printing in the preparation of transplant tissue. The huge amounts of patient and procedural data gathered in e-health systems and from digitalized equipment may help to evaluate the clinical value of specific treatments and their precise role in managing epidemiological trends.<sup>8</sup> Overall, technology-based changes are shifting the balance of power within healthcare systems across the globe and are changing the conversation between the different parts of the healthcare value chain.<sup>9</sup>

»As in many sectors, technology is the key to success in healthcare. Even though it's costly to keep pace with technological advances, it's hugely beneficial to do so.«

Turkey, Private Medical Imaging Center

»Because of fundamental change in the healthcare system, the healthcare environment needs to become more and more digitalized, and I see that as our only real option to adapt to the changing environment. Many healthcare processes need to become automated and I see this is what we need to invest in... even more than in skilled staff.«

UK, Public Hospital

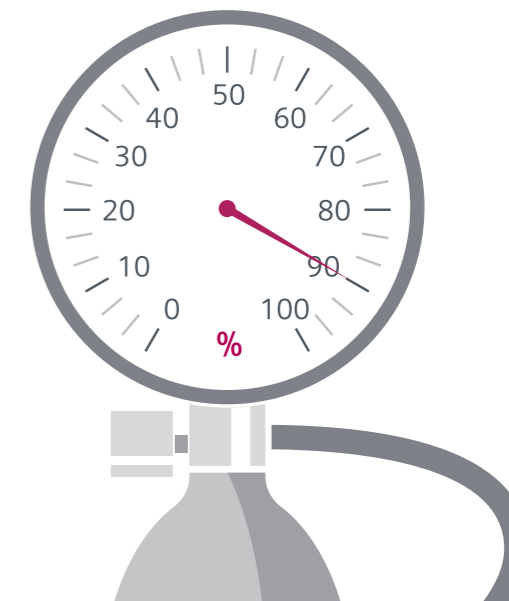
»I'm thinking that we should have units that are more specialized. We now have hospitals that are supposed to cover a large geographical area, but the challenge is to cover a large geographical area but at the same time offer specialist care. We have to figure out which care services that are suitable in more mobile settings in order to provide mobile care.«

Sweden, Public Hospital

»Although digitalised technology is costly initially it ultimately results in the need for less manpower, ease of accessibility and faster delivery of services.«

India, Private Hospital

**How important is investing in the new-generation, digitalized healthcare technology?**  
% of respondents saying 'important', 'extremely important' or 'crucial'.



<sup>6</sup> Deloitte, 2014 Global Healthcare Outlook

<sup>7</sup> BCC Research, Mobile health technologies and global markets, 2014

<sup>8</sup> Deloitte, Global Life Sciences Outlook: Resilience and reinvention in a changing marketplace, 2013

<sup>9</sup> McKinsey, Unlocking Digital Health, 2015

# Managing the pressures – transformation in practice

This study demonstrates how healthcare finance professionals regard new-generation technology as having a crucial role in enabling transformation in their sector. These changes can entail a wide range of measures:

- meeting efficiency targets
- improving treatment outcomes
- enabling earlier diagnosis
- implementing new ways of working
- meeting regulatory demand
- meeting new metrics such as community "wellness" – or (population) health management – targets; and other transformational trends.

The following sections help to calibrate the importance respondents place on technology acquisition, the areas they regard as top priority for such investment, and the range of financing tools they are using to make those investments transparent and sustainable.

»The shift has arrived. Earlier, patients used to come when they got ill. Nowadays, they come for preventative care. It's already here. Patient awareness plays a role in this too; for instance, if they show symptoms of a cardiological illness, they go directly to cardiology instead of coming to the main reception. There is an improvement in this regard. We are already there; this is a reality now.«

India, Private Hospital



»As in many sectors, technology is the key to success in healthcare. Even though it's costly to keep pace with technological advances, it's hugely beneficial to do so.«

Turkey, Private Laboratory

»Although digitalized technology is costly initially it ultimately results in the need for less manpower, ease of accessibility and faster delivery of services.«

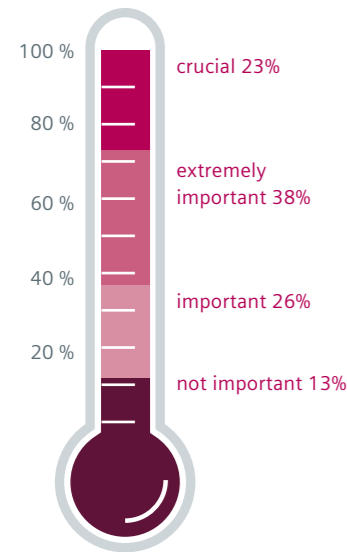
India, Private Hospital

»Day by day, we are being pushed toward high-technology equipment. Especially because of the advances in preventive diagnosis, we must invest in new machinery, and we will do so if we are to stay in business.«

Turkey, Private Laboratory



Investing in the new-generation, digitalized healthcare technology is ...



## 1. The evolving role of enabling technology

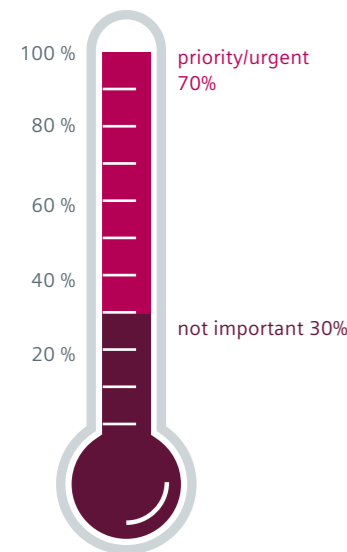
Given its enabling power, the rapidity of technological change, and the positively disruptive effect it can have on healthcare outcomes and efficiencies, it follows that almost 90 percent of respondents to this study consider the role of new-generation, digitalized technology to be "important", "extremely important" or "crucial" in helping their organization successfully manage the pressures for change over the next five years. Moreover, the time-frame for investment is pressurized. Four in every five CFOs interviewed said investment in new-generation technology is a "priority" for their organization, and over half said it is an "urgent priority".

Digitalization and automation, specifically, are enabling a large proportion of this radical change in a number of other healthcare capabilities and efficiencies.<sup>10</sup> These range from e-patient record systems, to remote patient monitoring, to surgical robotics, to refined diagnostic imaging, to mobile point-of-care technology. Digitalization is often overtly specified in national health policies, for example the Health China 2020 state plan.<sup>11</sup> Without access to these new technologies, it is extremely difficult for healthcare organizations to meet the rising tide of pressures they face in an affordable and effective way. Without digitalization, new ways of delivering healthcare remain tantalizingly outside the reach of many healthcare organizations.

Investing in this new-generation technology, however, requires access to investment funding and financing. This is often a challenge in healthcare systems where capital funds are increasingly restricted or in rapid-growth systems where over-enthusiastic accumulation of debt could quickly lead to financial unsustainability.

As a result, leading healthcare CFOs and senior financial managers are increasingly exercising their ingenuity to access a diverse range of alternative financing arrangements – offered by the private sector rather than the state purse – to enable those essential technology investments.

What priority does the adoption / implementation of digitalized technology have in your organization ...



»There is definitely a trend for managing health – this is visible in the everyday life of our patients, who seem to be more and more aware of the importance of monitoring their own health. I believe that the change in the healthcare sector will happen pretty quickly with the help of increased use of technology for this.«

Finland, Public Hospital

## 2. Priority areas for investment and the issue of standardization

Where, then, should the focus of new-generation technology lie? Respondents cited three top priorities (in this order):

1. Imaging and diagnostics
2. IT and electronic patient records management
3. Surgery and surgical automation

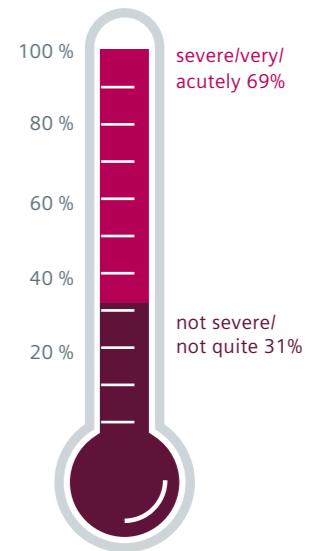
The strength of feeling regarding these top three digitalized technology investment areas is evident in the almost seven in every 10 respondents who classified the pressure to invest in healthcare informatics – IT and patient record management – as "severe". Anecdotally, the top priorities cited by respondent CFOs tended to be where they could see a clear connection between technology investment, improved efficiency and either better health outcomes for the patient, or a specific preventative advantage, such as early/precondition diagnosis or avoidance of the need for acute intervention and lengthy chronic treatments. In short, respondents related technology investments to improving population healthcare management and meeting the new pressures of value-based healthcare delivery.

Yet, simply investing in new-generation technology is not the only measure required. There also needs to be a radical rethink of the way it is applied. Respondent CFOs very much saw changes in the way healthcare procedures are delivered. In the drive toward greater operational efficiency (without loss of quality), two-thirds of respondents said they see moves toward standardization of procedures. This was described by some commentators as an "industrialization" of healthcare, drawing parallels with efficiency gains through standardization in manufacturing. In the healthcare context, however, respondents noted that while the concept is sound, this term "industrialization" has to be used with caution. Patients must be seen to receive exactly the treatment each individual requires. Respondents universally noted that the vocabulary used must never carry any pejorative, "production line" tone in terms of management of complex patient conditions.

»Better diagnostics can result in better treatment and more effective use of [our] budget.«

Poland, Private Medical Center

Pressure to adopt health informatics and e-patient systems ...



»Standardization has helped us to differentiate our services from those of our competitors, so it's a selling point for us.«

USA, Private Medical Center

»We have embraced the concept of standardization because we understand it will drive quality and safety, service, effectiveness. This is a good way to become a valued partner for insurers and employers as we grow as a high-quality, low-cost provider.«

Russia, Private Hospital

<sup>10</sup> See, for instance: PA Consulting, The Digitisation of Healthcare; McKinsey & Company, Healthcare's Digital Future, 2014; Economic Times of India, How technology is changing the face of Indian healthcare, 2 Apr 2014; Frost & Sullivan, China Preparing for a Digitized Healthcare Landscape, 1 Dec 2014; Deloitte, Healthcare and Life Sciences Predictions 2020, Nov 2014; et al.

<sup>11</sup> Frost & Sullivan, China Preparing for a Digitized Healthcare Landscape, 1 Dec 2014

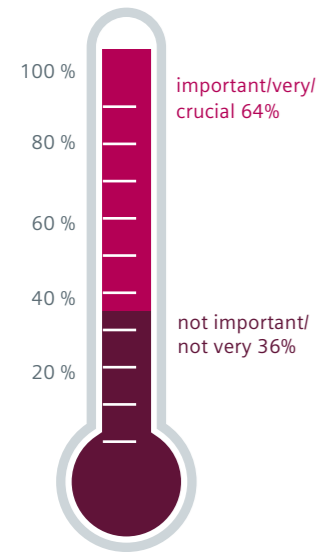
## Smart finance to enable investment

The last point involves examining respondent views on the financing techniques they regard as particularly useful in enabling essential new-generation, digitalized technology investment to meet their main pressures for change. Over half of respondents said that they are already using alternative financing techniques to access funding and appropriate financing arrangements that are sympathetic to their cash-flow requirements – asset finance, consumables-based finance, invoice finance and managed facilities were cited in particular.

Of all techniques mentioned, various forms of asset finance are evidently the most popular, with over half of CFO respondents noting that financing techniques such as leasing and renting are important to their ability to manage the major pressures for change that they face. They particularly value the ease, adaptability and extensibility of asset finance plans to fit their individual circumstances.

Finally, specialist financiers – who bring an in-depth understanding of the new-generation technology and the ways it is applied to real-world outcomes – appear to be favored by healthcare institutions. These finance providers are felt to offer a level of flexibility and understanding that allows the most appropriate, individually structured financing arrangements to be offered, with terms and periods flexed to suit the organization's cash flow and working capital management needs.

How important are innovative financing techniques such as leasing and renting in your organization ...



»We need to find alternative [financing] solutions as we can't rely on bank loans anymore.«

France, Public Hospital

»We use a range of different financing methods, including asset finance and different instruments for borrowing. The main reason for us to use diverse funding methods is to manage risk and try to minimize the financial risks involved.«

China, Public Hospital

»Leasing is easier and quicker to arrange than a bank loan.«

France, Public Hospital

»Because of the pressure on our cash flow ... being able to lease obviously takes a lot of [that] pressure«

UK, Public Hospital

»We use leasing, renting, factoring, our own funds, bank credits; flexibility is very important – it all depends on the situation.«

Germany, Public Hospital

»We find that specialist financiers offer more flexible and appropriate terms, and they are willing to combine the complete technological solution (whichever vendors it comes from), and even offer an umbrella arrangement for future tech acquisition.«

Germany, Public Hospital

»I see a lot of potential in leasing, for example – it clearly prevents rising costs and provides transparency. I can see where the money goes more clearly with leasing solutions.«

Finland, Public Hospital

»Without leasing, we would not be able to keep our services going in a smooth and effective way.«

Turkey, Private Hospital

»The most advantageous arrangements – when total cost of ownership is considered – come from more specialized finance companies that have the flexibility and know-how to put together useful financing plans that show intelligent understanding of our targets and goals.«

Norway, Public Hospital

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