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OUTCOME BASED HEALTHCARE FOR THE NEW HEALTHCARE ERA

Núria Mas and Gerard Masllorens

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Núria Mas and Gerard Masllorens
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IESE
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Management

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INTRODUCTION

A new healthcare era is about to begin. For quite a while we have known that three big challenges – financial pressures, an aging population and data explosion – are pressing us to rethink how we provide healthcare and yet the advances in this direction have been small. *Financial pressures* are forcing our societies to improve the solvency of our health systems at a time when rapid aging is changing population needs: advanced economies are devoting between 70% and 80% of all their health spending to the treatment of patients with at least one chronic condition. Chronic diseases require an integrated approach to the patient, which is inconsistent with the existing separation between primary and specialist care and the even bigger detachment between health and social care. All this is in an environment of *increasing knowledge complexity* emphasized by the volume, variety and velocity of current "big data" production.

This occasional paper is framed within the context of IESE's Healthcare Industry Meetings. To help push the conversation, our annual meeting offers a first-class platform to top executives, healthcare professionals, academics and field experts to share their experiences and provide their insight on the current state and future of the industry to continue to seek innovative ways to respond to the incredible changes affecting the healthcare sector.

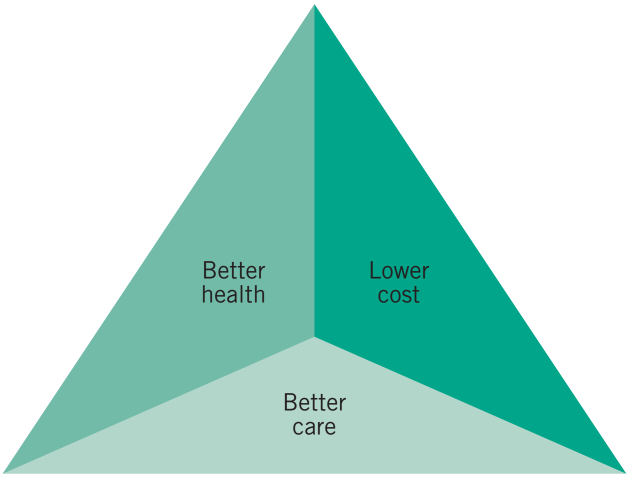
1. OUTCOME-BASED HEALTHCARE

In the face of this new reality, a novel idea (introduced by Don Berwick, Tom Nolan, and John Whittington in 2008)[1] is gaining ground – the possibility of achieving three interrelated objectives known as the *Triple Aim*: better health for the population, better care for patients and lower costs for treatment.

Part of its appeal lies first in the fact that we know **it is possible**: for instance, a report from the U.S. Institute of Medicine titled *Best Care at Lower Cost* (2012)[2] found that 30% of health spending in the United States did not translate into better care, indicating that there was great scope for improvement. A study comparing the hospital performance of a selected group of medical technologies across a number of OECD countries (Erlandsen, 2008)[3] also found a significant saving potential, ranging from 23% to 44%. And one last example is the well-known existing differences in performance across regions highlighted by the Dartmouth Atlas of Health Care or the Spanish atlas of variations in medical practice (Atlas de Variaciones en la Práctica Médica).

For the *Triple Aim* to become reality we need a holistic view of the population's health, focusing on medical pathways, following the patient throughout the process and considering an integrated approach that goes from the patient to the payer, including all the providers, the industry and all the other participants (traditional and nontraditional) in this market. To achieve this, however, one crucial step is to change the way we think about our healthcare systems and **move toward outcome-based healthcare, where the main focus of the debate comes back to the essence of any healthcare system: the population's health**. The focus should be not so much on healthcare costs but on trying to obtain the best possible health outcome for the population, given what we are spending.

FIGURE 1. THE TRIPLE AIM



Núria Mas and Gerard Masllorens, "Outcome based healthcare for the new healthcare era", IESE Business School, OP-286-E, 2016.

Outcome-Based Healthcare Is Already Happening

There is increasing consensus about the importance of adopting an outcome-based approach in order to achieve a financially sustainable healthcare system and many countries have started to develop initiatives in this direction. The following are some examples:

- **United States**: In 2010, with the implementation of the Patient Protection and Affordable Care Act (ACA), the *Triple Aim* became part of the U.S. national strategy for healthcare. In January 2015, Sylvia M. Burwell, U.S. secretary of health and human services, announced[4] that her department's intention of "using incentives to motivate higher-value care, by increasingly tying payment to value through alternative payment models; changing the way care is delivered through greater teamwork and integration, more effective coordination of providers across settings, and greater attention by providers to population health; and harnessing the power of information to improve care for patients." She also announced the goal of having "**85%** of all Medicare fee-for-service **payments tied to quality** or value by 2016, and 90% by 2018. Perhaps even more important, our target is to have 30% of Medicare payments tied to quality or value through alternative payment models by the end of 2016, and **50% of payments** by the end of 2018" (emphasis added).
- **Sweden**: In 2009, Sweden introduced a bundle payment for a hip and knee replacement where part of the payment (3.2%) is received only if the provider achieves a previously agreed outcome. The results were very encouraging, with a 20% reduction in complications and an overall reduction in the country's costs for knee replacement. The bundle payment is being extended to other surgeries.
- **United Kingdom**: The United Kingdom is carrying out different pilots to introduce the outcome-based healthcare system. As a case study, Oxfordshire Clinical Commissioning Group has introduced an outcome-based system for mental health.[5] The pilot started by defining the outcomes that matter to people with mental health problems in Oxfordshire. (A round of discussions first took place with experts and a second round with all the stakeholders.) Once there was consensus on the outcomes to consider, in 2013-14 a new capitation financing model was introduced where the providers would receive 80% of the total capitated contract value and another 20% would be linked to the achievement of the outcomes.

Figure 2 shows the answers of a group of healthcare experts who took part in the 22nd Healthcare Industry Meeting at IESE on October 27, 2015, when asked about what outcome-based healthcare meant for them.

FIGURE 2. EXPERTS' OPINIONS:
WHAT IS OUTCOME-BASED HEALTHCARE?

Source: Word cloud prepared by the authors based on the opinions of experts at the 22nd Healthcare Industry Meeting

2. ENGAGED PATIENTS

From their responses and also following the general consensus, several issues stand out:

Engaging patients. The patient plays a central role and is key when deciding which outcomes should be the most relevant to consider. From deciding the outcomes to self-managing their own conditions, patients will be at the center of healthcare delivery.

Measurements, data and transparency. Data will change the rules of the game. Experts estimate[6] that each person will generate one million gigabytes of health-related data in their lifetime. This changes everything from drug testing to prevention and diagnostic techniques. Successfully collecting and analyzing these enormous amounts of data are key for the transition to an outcome-based healthcare system.

Integrated care. Close cooperation and integration between all healthcare providers are necessary to offer full treatment to the patient. Integrated care pathways will help to follow patients through their disease paths but also will change the market organization. Both healthcare providers and suppliers need to adapt to this new paradigm, so partnerships and new business strategies need to emerge.

Outcome-based payments. Payments should be designed in a way that will help align the incentives of all the stakeholders. The more our healthcare systems focus on outcome, the more likely it is that payments will shift from paying for doing to outcome-based payments.

In this document we will use the four dimensions above to evaluate the situation of outcome-based healthcare in different European countries.

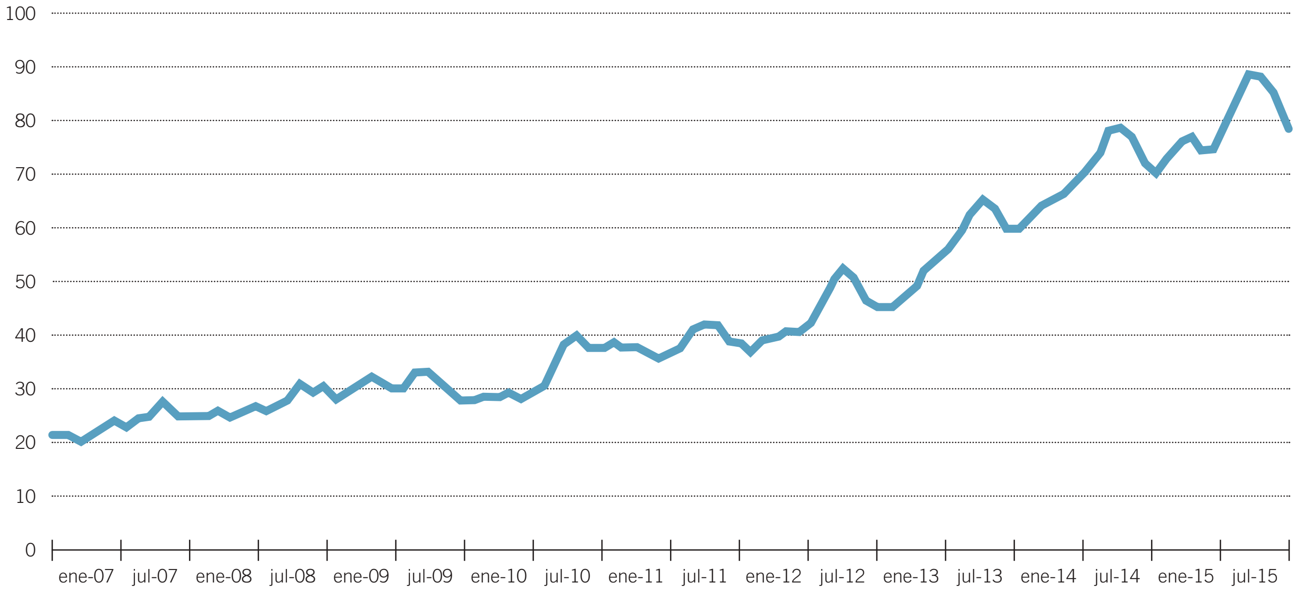
A key step to achieve the *Triple Aim* lies in maximizing patient involvement. There is extensive literature linking patient engagement to behavior.[7] A study involving almost 25,000 adult patients in Minnesota[8] found that patient activation was linked to a broad range of health-related outcomes and to adherence to treatment. Moreover, recent research also linked more activated patients to lower healthcare costs.[9] In light of such evidence it is not surprising that patient engagement has been at the heart of healthcare reform for some years now and many countries have developed initiatives in this regard.

Although **patient engagement** includes a broad set of actions, it is possible to divide these into two big groups: **shared decision making** – defining outcomes, codeciding treatments, patient-related outcome measures (PROMs) – and **self-care** (see activated patients below).

When talking about shared decision making, one should differentiate between **individual decisions and collective ones**. The former consists of providing the relevant information to an individual patient about different possible treatments (including their side effects) and **codeciding** the most appropriate one. The latter consists of including the patients **in policy making**. In this group there are focus groups to decide which outcomes should be targeted and the PROMs implemented in the United Kingdom and Sweden that help put the patient in the center of hospitals' evaluations.

Self-care policies consist of helping the patients **take better care of themselves**. Such actions can be directed at the general population or specific niches such as chronic patients. Among the former we include prevention policies such as promoting a healthy diet or physical activity as well as remote assistance via the Internet or by phone. To give an example, when taking a look at Google trends for Spain, we have found that a search for the words "*Cómo curar*" ("How to treat…") has a yearly peak in or around August, when most people are on vacation and cannot go to the doctor. A key factor in this regard is to **ensure there is a good, reliable and 24/7 healthcare information source**.

FIGURE 3. GOOGLE SEARCH FOR “*CÓMO CURAR*” (“HOW TO TREAT...”) IN SPAIN



Source: Graph prepared by the authors based on data from Google trends, last accessed February 2016.
Moving average: three months

Self-care has also been shown to improve healthcare utilization such as the hospitalization rate or the 30-day readmission rate for chronic patients.[10,11,12] For example, in **Catalonia, Spain**, self-care is promoted through the Expert Patient Program Catalonia (Programa Pacient Expert Catalunya). An expert patient is a person suffering from a chronic disease who is able and willing to take responsibility for that disease and self-care. The goal of the program[13] is to promote “the self-care, joint responsibility and autonomy of people who have a chronic illness.” It is a multidisciplinary initiative based on collaboration between patients and professionals. In California, the **Stanford Patient Education Research Center** (part of the Department of Medicine at the Stanford University School of Medicine) has been working for more than 30 years focusing on patients “with chronic health problems, as well as cancer survivors and caregivers,” to “help people gain self-confidence in their ability to control their symptoms, better manage their health problems, and lead fuller lives[14].” These kinds of programs are common practice in other countries as well and the patients who take part in these programs are called **activated patients**.

Box 1. The Patient Activation Measurement (PAM)

In 2004 Judith H. Hibbard et al.[15] developed a measure to account for patient activation, called PAM (Patient Activation Measure). This measure consists of a 13-item questionnaire (see Figure 4) and it allows patients to be classified into the following four groups:

- Level 1: Disengaged and overwhelmed. These individuals are passive and lack confidence. Their knowledge is low, their goal orientation is weak, and their adherence is poor. Their perspective: "My doctor is in charge of my health."
- Level 2: Becoming aware, but still struggling. Individuals have some knowledge, but large gaps remain. They believe health is largely out of their control, but they can set simple goals. Their perspective: "I could be doing more."
- Level 3: Taking action. Individuals have the key facts and are building self-management skills. They strive for best practice behavior, and are goal-oriented. Their perspective: "I'm part of my healthcare team."
- Level 4: Maintaining behavior and pushing further. Individuals have adopted new forms of behavior but may struggle in times of stress or change. Maintaining a healthy lifestyle is a key focus. Their perspective: "I'm my own advocate."

Being at the high end of patient activation not only implies better confidence and engagement but also better clinical outcomes and lower costs. According to estimates[16] by Hibbard et al. (2013), patients with the lowest levels of activation cost 21% more than patients with the highest levels (in the first six months after the base year).

The PAM has already been used in several countries:

- In the United States, a study carried out at Boston Medical Center[17] found that patients at level 2 had a 50% higher chance of being readmitted within 30 days of leaving the hospital compared with patients at level 4. Based on this evidence, the Centers for Medicare and Medicaid Services mandated hospitals in more than 30 states to use the PAM in order to support patients when they leave the hospital.[18]
- In the United Kingdom, the Health Foundation launched the program Co-Creating Health[19] to "demonstrate that increased self-management by patients with long-term conditions, appropriately supported, leads to improved health outcomes." The program consisted of instructing clinicians to improve their shared decision-making skills, to empower patients with long-term conditions to self-manage their diseases, and to improve the effectiveness of healthcare organizations to facilitate a more active role for patients. The program resulted in improvements in PAM scores.
- Finally, again in the United States, one large insurance company calls patients who have been diagnosed recently with cancer and asks them to do the PAM questionnaire. Patients whose score puts them in level 1 or 2 are assigned a coach to help them. This approach not only saves costs but also increases patient satisfaction.[20]

FIGURE 4. THIRTEEN-ITEM PATIENT ACTIVATION MEASURE QUESTIONNAIRE

Level 1	When all is said and done, I am the person who is responsible for taking care of my health
	Taking an active role in my own health care is the most important thing that affects my health
Level 2	I am confident I can help prevent or reduces problems associated with my health
	I know what each of my prescribed medications do
	I am confident that I can tell whether I need to go to the doctor or whether I can take care of a health problem myself
	I am confident that I can tell a doctor concerns I have even when he or she does not ask
	I am confident that I can follow through on medical treatment I may need to do at home
	I understand my health problems and what causes them
Level 3	I know what treatments are available for my health problems
	I have been able to maintain (keep up with) lifestyle changes, like eating right or exercising
	I know how to prevent problems with my health
Level 4	I am confident I can figure out solutions when new problems arise with my health
	I am confident I can maintain lifestyle changes, like eating right and exercising, even during times of stress

Source: Prepared by the authors, based on Hibbard (2005)[21]

Patient Engagement in Europe

In this section and in each of the following we will calculate a score from 0 to 1 for a group of selected European countries for each of the dimensions that define an outcome-based healthcare system. In the conclusion we will provide total scores for the countries.

Figure 5 presents the score for a group of European countries based on their policies for promoting patient engagement.

FIGURE 5. PATIENT ENGAGEMENT SCORE FOR A SELECTED GROUP OF EUROPEAN COUNTRIES

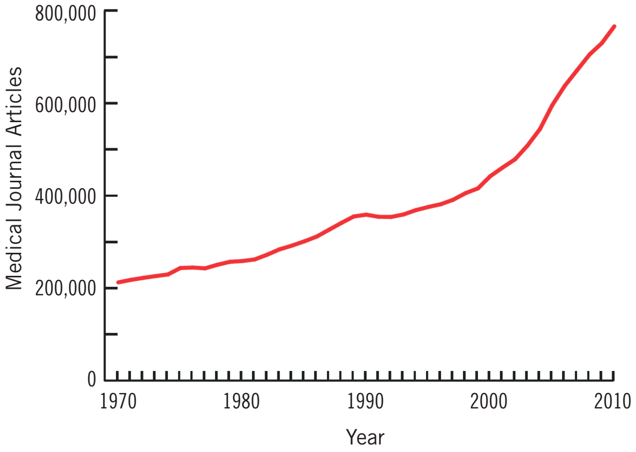
	Patient organization involved in decision making	Web or 24/7 phone healthcare info with interactivity	**Patient engagement**
Austria	1	1	1
Belgium	0.5	0.5	0.5
Czech Republic	0.5	0	0.25
Denmark	1	1	1
Finland	1	1	1
France	1	1	1
Germany	1	1	1
Ireland	0.5	0	0.25
Italy	0.5	1	0.75
Netherlands	1	1	1
Portugal	1	1	1
Spain	0	1	0.5
Sweden	0.5	1	0.75
United Kingdom	0.5	1	0.75

Source: Prepared by the authors, based on data from Health Consumer Powerhouse, Euro Health Consumer Index 2014.
See the Appendix for more detail

3. DATA IS A GAME CHANGER

We are at a tipping point in the history of healthcare. In 2012, health-related data represented 500 petabytes (One petabyte is 10^{15} bytes.). This amount is expected to quintuple by 2020.[22] Moreover, technology is evolving to facilitate analysis of these data. We are on the verge of being able to evaluate not only the "traditional" structured data but also enormous amounts of free-text data, diagnostic images, etc. Since value-based healthcare is necessarily data-driven, the possibilities that big data bring to promote better health are enormous. However, the promise of this data explosion lies not only in its volume but mainly in the way we use the data. The amount of new knowledge and the level of complexity have skyrocketed, reaching levels that challenge human cognitive capacity. For instance, the number of journal articles in biomedical and clinical research fields has quadrupled since 1970. (See Figure 6 below.)

FIGURE 6. NUMBER OF JOURNAL ARTICLES PUBLISHED ON HEALTHCARE TOPICS PER YEAR FROM 1970 TO 2010



Source: Institute of Medicine (2012). *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America*, p. 74

When contemplating outcome-based healthcare the obvious necessary first step is to **define the outcomes** to be considered. Such outcomes should (a) measure health along all the health pathway from prevention to diagnosis, treatment and follow-up; (b) be broadly accepted by groups of experts: the greater the consensus we have on them, the better; (c) be comparable across providers; (d) be as easy as possible to measure.

The second step is to use the data not only to see what is happening (i.e., to compare outcomes) but also to **understand why** it is happening. This is crucial if we want to replicate a successful practice from another provider or health system. Hence, we also need information about the process.

Since improvement starts not when information is collected but when information is shared, **transparency is critical**: it facilitates learning, motivates improvement and provides information so that better decisions can be made. Stefan Larsson et al. (2011)[23] suggest that "by making outcome data transparent to both practitioners and the public, well-managed registries enable medical professionals to engage in continuous learning and to identify and share best clinical practices," resulting in better outcomes and lower costs.

Transparency in health data is increasing in many countries. In Spain, for instance, the autonomous regions of Madrid and Catalonia have health observatories, where they publish data on several key indicators at the hospital and primary care level such as mortality, 30-day readmissions, and rates of childhood vaccination. The main purposes of publishing the data are transparency and benchmarking. Sweden also publishes an annual report in a series entitled *Quality and Efficiency in Swedish Health Care – Regional Comparisons*. Each report covers a wide range of healthcare areas and presents a large number of indicators and comparisons, generally between the various counties of Sweden. Indicators include quality-of-care aspects such as life expectancy and avoidable hospitalizations as well as cost information (e.g., cost per diagnosis-related group point, and cost per contact with the primary care system).

Box 2. Digital Technologies in Healthcare: We're Not in Kansas Anymore

By Josep Valor, IESE professor of Information Systems

In April 2011, the prestigious research magazine Nature Biotechnology published[24] an article that went unnoticed by many people. The article used self-reported patient data collected via the Web portal PatientsLikeMe to prove that, in startling contrast to a previous study accepted at the time, lithium carbonate therapy did not stop the progression of amyotrophic lateral sclerosis (ALS).[I] We should ask ourselves: In this example, is there anything fundamentally different from what digital technologies had been doing for healthcare since their inception?

Computers have been used to collect and analyze data in the healthcare industry since the moment they became commercially available. They have been extremely valuable to medical practice – unsurprisingly, as medicine is an information-intensive activity. We have used digital technologies to store and manage massive amounts of information, be it (1) patient-related, such as real-time bedside monitoring of vital signs and managing electronic medical records, or (2) diagnosis and therapy-related, to help practitioners decide how to treat patients by providing the latest information available. Deploying these technologies in an institution or health system was a no-brainer if the economic resources were available. There was no obvious downside except perhaps having to take good care of the data to prevent intrusion in the same way one should guard against intrusion of the physical archive of medical records.

The situation in 2016 is quite different. Now, by wearing a relatively unintrusive device, we can collect data from our daily activities including a number of health-related vital signs that can have enormous value by helping physicians monitor and diagnose possible ailments or, when aggregated, by helping public health officials in the early detection of trends and epidemics. But a big question is lurking around these new applications: Whose data are they? Does the health system have the right to know how my heart beats, to monitor my respiratory frequency or my basal temperature? When does privacy end and the public good start? How much valuable information is "hidden" in those wearables attached to the bodies of the joggers and cyclists in New York's Central Park? The ethical issue of privacy vs. the public good has to be addressed and we have to come to a conclusion, just as it was decided that speed cameras were necessary even if they took pictures of us and anyone else in the car. Let us get back to the ALS example: if the patients had chosen not to share the data of the evolution of the disease, the study could have not been conducted. In a devastating disease such as ALS, one may argue, patients are willing to share data to help each other, but then the next question is obvious: How much could we learn if all health data were shared? The revolution in healthcare brought about a digitally dense[II] world, where we will be able to store and analyze via big data the massive amounts of information, is of gigantic proportions.

The digital revolution also provides solutions and raises issues at the other end of the spectrum: hyperpersonalized care. Currently, medicine is basically practiced with a personal understanding (hopefully) of each of us by our personal internist but treatment is with wide spectrum nonpersonalized drugs. Soon, performing a complete genetic map of an individual will cost a few dollars, and we will be able to know immediately a person's predisposition to certain diseases and the possible reactions to various drugs. We will be able to design extremely targeted drugs. Faced with this huge complexity in diagnostics and prescription, will human physicians be the best interface between disease and treatment? Just as an automatic pilot can already land an airplane when human pilots have no visibility, will a similar "automatic pilot" perform better medicine than any physician overpowered by a deluge of information? This seems to be the case already for some diseases such as lung and breast cancer, at least according to the Memorial Sloan Kettering physicians training the IBM cognitive computer that goes by the name of Watson.

The healthcare industry will never be the same: "Toto, I've a feeling we're not in Kansas anymore."

[I] Amyotrophic lateral sclerosis (ALS) is a neurodegenerative disease with a very poor prognosis. Treatment alternatives are fundamentally palliative, trying to delay its progression. Accepted medical wisdom backed up by a medical trial stated that a particular drug, lithium carbonate, delayed the progression of the disease. To make the results of a study conducted with self-selected patients close in validity to the "gold standard" of double-blind clinical trials, the researchers had to circumvent the obvious sample bias of some statistical manipulations but the conclusion was clear, and medical practice changed.

[II] "Digital density" is a term first coined in an IESE Insight article[25] and refers to the increase in digitally mediated connections, interactions and information exchanged per unit of social activity.

Data and Transparency in Europe

Figure 7 provides a score (based on OECD data) for a group of selected countries based on their data collecting, availability and utilization.

FIGURE 7. DATA AND TRANSPARENCY SCORES FOR EUROPEAN COUNTRIES

	Is there any comparable information published on the quality of services supplied by individual providers?	Data on clinical outcomes	Data on the use of appropriate processes	Data on patient satisfaction	Data on patient experiences	Is the information in a form that facilitates cross-provider comparison?	Public health monitoring	Health system performance monitoring	Patient safety monitoring	Supporting physician treatment decision	**Data and transparency**
Austria	0	0	0	0	0	0	0	0	0	0	0
Belgium	0.1	0.1	0	0	0	0.1	0.1	0	0.1	0.1	0.6
Czech Republic	0.1	0.1	0	0.1	0	0.1	–	–	–	–	0.4
Denmark	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0.6
Finland	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.4
France	0.1	0	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.7
Germany	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0.6
Ireland	0.1	0	0.1	0	0	0	–	–	–	–	0.2
Italy	0	0	0	0	0	0	–	–	–	–	0
Netherlands	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0.6
Portugal	0	0	0	0	0	0	0.1	0.1	0.1	0	0.3
Spain	0	0	0	0	0	0	0	0	0	0	0
Sweden	0.1	0	0	0	0	0	0.1	0.1	0.1	0.1	0.5
United Kingdom	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1

Source: Prepared by the authors, based on data from the OECD (2012 and 2013). See the Appendix for more detail

4. INTEGRATED CARE

An integrated approach is a mandatory requirement to achieve the *Triple Aim*. There is evidence that integrated care not only provides better outcomes for patients but also explores and uses the synergies arising from the sum of the parts in a way that leads to lower costs.[26] Population-based approaches to integrated care have been shown to lead to better quality of care and better quality of life for older people.[27]

However, integrated care for people with chronic conditions is a global challenge since it often requires a transformational change for the healthcare systems, with coordination (integration) between different providers. For some time now, this concept has arisen in many healthcare plans all around the world:

- In 2010 the Basque Country, Spain, launched its "Strategy to Tackle the Challenge of Chronicity." Using this strategy, the government worked to transform the healthcare organizations throughout the region into more integrated care models, with the focus on improving quality in chronic care management. The government created a series of integrated healthcare organizations as the cornerstone of the strategy in order to unify primary care and secondary care into one single organization.
- The Catalonia region in Spain is another leader in innovative approaches to integrated care. In 2011, Catalonia's Department of Health worked to design a new strategy for delivering integrated care for the population through integrated care pathways related to four chronic conditions (diabetes mellitus, heart failure, chronic obstructive pulmonary disease and depression). In February 2014, this plan was expanded under the Interministerial Social and Health Care and Interaction Plan (PIAISS), which involves the full integration of social care and healthcare in eight pilot territories.
- In the United Kingdom, there have been several pilots aimed at integrating care. For example, in 2001, a project in northwest London "aimed to integrate care across primary, acute, community, mental health and social care for people with diabetes and/or those aged 75+ through care planning, multidisciplinary case reviews, information sharing and project management support."[28]

Developing an integrated care model, however, is no easy task. It requires close cooperation between people and organizations that have long been operating fragmentally. Here are some key recommendations that should be implemented for this goal:

- Policy makers should promote the idea from their leadership position, facilitating cooperation between departments that provide services to people with complex needs. The transformation should also entail a different approach to financing healthcare. (See section 5.) However, efforts should not be top-down only – the participation of providers, practitioners, patients and all the stakeholders is crucial.
- Providers and practitioners should embrace the idea of integrated care and adapt it to their own needs. For example, in the Catalonia model, discussed above, the government provided some core elements of each care pathway but then it was time for local stakeholders to use this core of key elements and then add ad hoc elements to apply the pathway in their own territory.
- Technology is key as it enables the creation of shared clinical records and a regular flow of information between different providers and between providers and patients.

Integrated Care in Europe

Figure 8 provides our score for a group of European countries based on their policies to promote integrated care.

FIGURE 8. INTEGRATED CARE SCORE FOR SELECTED EUROPEAN COUNTRIES

	Are disease management programs commonly used?	Are case management programs commonly used for patients with complex conditions requiring chronic care?	Do physicians transfer or exchange information electronically for diagnosis or treatment purposes with other healthcare providers?	Gatekeeping	Patient socioeconomic data recorded	Patient clinically relevant psychosocial or cultural issues recorded	Prevention	Integrated care
Austria	0	0	0.5	0	0	0	0.05	0.08
Belgium	1	1	0.5	0	0	1	0.36	0.62
Czech Republic	1	0	0.5	0.5	–	0	0.14	0.27
Denmark	1	1	0.5	1	0.5	0	0.19	0.60
Finland	0	0	1	1	0	0	1.00	0.43
France	0	0	0.5	0.5	0	0	0.07	0.15
Germany	1	0	1	0	0	0	0.33	0.33
Ireland	0	0	0.5	1	–	0	–	0.30
Italy	–	–	0.5	1	–	0	0.29	0.45
Netherlands	1	0	0.5	1	–	0	0.36	0.48
Portugal	1	1	0.5	1	0	0	0.00	0.50
Spain	0	1	1	1	0	0	0.10	0.44
Sweden	0	0	1	1	0	0	0.33	0.33
United Kingdom	1	1	0.5	1	0	0	–	0.58

Source: Prepared by the authors based on OECD data. See the Appendix for more detail

5. OUTCOME-BASED PAYMENTS

How we organize our healthcare systems and the delivery of care will change because how we are going to pay for healthcare will change.

Across the globe, more and more initiatives are moving from fee-for-service payments toward a more value-based payment. We can consider three main types of payment:

- **Fee-for-service**: A predetermined amount is paid for each discrete service provided. This model is the most used traditionally and it might be appropriate for simple injuries that have a low variation in cost per episode and a low frequency of episodes. However, this model focuses on **quantity rather than quality** and when it is used for complex conditions it raises costs by encouraging the maximum amount of treatment available to be carried out. Moreover this scheme gives no incentives for the prevention of future episodes related to the condition.
- **Bundled payment**: A price is offered for a total package covering all care for a patient's medical condition. One example is the OrthoChoice program implemented by Stockholm County in 2009 for hip and knee replacements. The episode of care includes a pre-op visit, the surgery itself, a prosthesis, X-rays after surgery, inpatient rehabilitation, and follow-up within three months of the operation. Two years on, the program showed lower costs and a 20% decrease in complications. In April 2013, the U.S. Medicare program started the Bundled Payments for Care Improvement (BPCI) initiative. This initiative tests four different models based on episodes of care: the first model focuses on hospital care and the other three on the care provided after release from the hospital. Bundled payments can **prevent unnecessary treatment** within an episode of care. Moreover, they are designed to **encourage coordination** between providers as the bundle may include services from different providers. It also enhances provider accountability for the quality of care, providing incentives to **improve value** (i.e., to reduce complications). However, this model gives no specific incentives for prevention.
- **Capitation**: This is a single payment to cover all the services that patients need during a specific period of time, regardless of how much treatment it involves. This model is designed to solve the problems of bundled payment: while maintaining all the advantages of bundled payment, it also **discourages the repetition of future episodes** related to the condition. Capitation payments **shift the risk from insurers to providers**. Capitated payments for selected populations are expanding in the United Kingdom. The county of Bedfordshire adopted a bundled payment for patients with musculoskeletal conditions, selecting a lead provider with a five-year capitated contract with outcome-based compensation. Cambridgeshire did the same, choosing a lead provider to deliver services for older people and provide integrated acute and community care.

FIGURE 9. FINANCING SCHEMES

	Fee-for-service	Bundled payment	Capitation
Does it discourage unnecessary services in an episode?	No	Yes	Yes
Does it encourage the coordination of multiple providers?	No	Yes	Yes
Does it encourage prevention?	No	No	Yes
Does it facilitate a comparison of different providers' costs?	No	Yes	Yes

Source: Prepared by the authors, based on Miller (2009).[29]

Finally, it is worth noting that, in both of the two last payment models, it is common to find **a fixed part plus a variable part** that will be paid according to the achievement of certain outcomes. This is known as a **pay-for-performance (P4P)** model. For instance, in the case of OrthoChoice the variable part was 3.2% and, in the case of Bedfordshire, the outcome-based variable part was 2.5%.

These new payment models represent a great opportunity to align the incentives of different providers with the delivery of high-quality care in a cost-effective manner by making the different providers accountable for the full health episode. However, this also implies that there is a certain degree of **risk shifting** from the insurer to the different providers. This has led to a surge in **risk-sharing agreements**.

Risk-sharing agreements (RSAs) are contracts that link payment to the achievement of certain preagreed measures, which could be financial, clinical outcomes, or both. Financial RSAs are generally used when payers are concerned about the volume or utilization of a certain procedure or product. One example is a recent case of hepatitis C, where there was uncertainty about the potential number of patients who could require the treatment. Another example is the case of Lucentis, a drug for a kind of macular degeneration, where there was uncertainty about the number of injections that each patient might require. In the latter case, the product provider reached an agreement with the United Kingdom's National Health Service, whereby the company would reimburse hospitals for any injections beyond 14 administered to a patient.[30] Performance-based RSAs focus on outcome objectives. For them it is crucial to have an agreement on the indicators to evaluate since the reimbursement will be related to the outcome achieved. These agreements work best for outcomes that are easy to measure during a certain period of time. Under this type of contract, the provider guarantees certain results (for instance, a certain level of cholesterol or a reduction in readmissions after 30 days). If the objectives are achieved, the provider receives full payment. (In some cases it might include a bonus for performance.) If the objectives are not achieved, the provider is penalized according to a preestablished mechanism. (For instance, the provider might not receive the performance bonus.)

Outcome-Based Payments in Europe

Figure 10 provides a score for a group of European countries based on their financing schemes.

FIGURE 10. FINANCING SCORES FOR SELECTED EUROPEAN COUNTRIES

	Primary care	Specialist	**Financing**
Austria	0	0	0
Belgium	1	0	0.5
Czech Republic	1	0	0.5
Denmark	1	–	1
Finland	1	0	0.5
France	0.5	0.5	0.5
Germany	0	0	0
Ireland	1	1	1
Italy	1	1	1
Netherlands	1	0.5	0.75
Portugal	1	1	1
Spain	1	1	1
Sweden	1	1	1
United Kingdom	1	1	1

Source: Prepared by the authors, based on data from the OECD (2014). See the Appendix for more detail

CONCLUSIONS

A new healthcare era is about to begin. In this new situation, the goal of achieving the *Triple Aim* of "better health, better care and better use of the available resources" is gaining momentum. On this journey, the way in which healthcare might end up being provided could change enormously, and it will definitely affect all the stakeholders. Payers are driving the transformation by changing the way in which healthcare is being reimbursed, but no transformation would be possible without the active participation of all the stakeholders.

Health systems, hospitals and primary care centers, and the industry might need to forge **alliances** to implement value-based care and respond to the new demands of bundled or capitated payment models. The shift will very likely require extensive data and sophisticated analytics and it will also require payers to understand all the financial risks involved. With these new payment incentives, provision of care will likely shift toward a more integrated care model. This would lead all the different providers to think about the roles they want to play in this new business model: Who is going to drive it?

An outcome-based healthcare system completely changes the landscape of healthcare delivery, for patients, providers, payers and suppliers, who all need to embrace the new system and walk together to this end with the shared objective of maximizing the value of healthcare delivery.

Outcome-Based Healthcare System in Europe

FIGURE 11. OUTCOME-BASED HEALTHCARE SCORES FOR SELECTED EUROPEAN COUNTRIES

	Patient engagement	Data and transparency	Integrated	Financing	**Outcome- based healthcare**
United Kingdom	0.75	1.00	0.58	1.00	3.33
Denmark	1.00	0.60	0.60	1.00	3.20
Netherlands	1.00	0.60	0.48	0.75	2.83
Portugal	1.00	0.30	0.50	1.00	2.80
Sweden	0.75	0.50	0.33	1.00	2.58
France	1.00	0.70	0.15	0.50	2.35
Finland	1.00	0.40	0.43	0.50	2.33
Belgium	0.50	0.60	0.62	0.50	2.22
Italy	0.75	0.00	0.45	1.00	2.20
Spain*	0.50	0.00	0.44	1.00	1.94
Germany	1.00	0.60	0.33	0.00	1.93
Ireland	0.25	0.20	0.30	1.00	1.75
Czech Republic	0.25	0.40	0.27	0.50	1.42
Austria	1.00	0.00	0.08	0.00	1.08

Source: Prepared by the authors. See the Appendix for more detail

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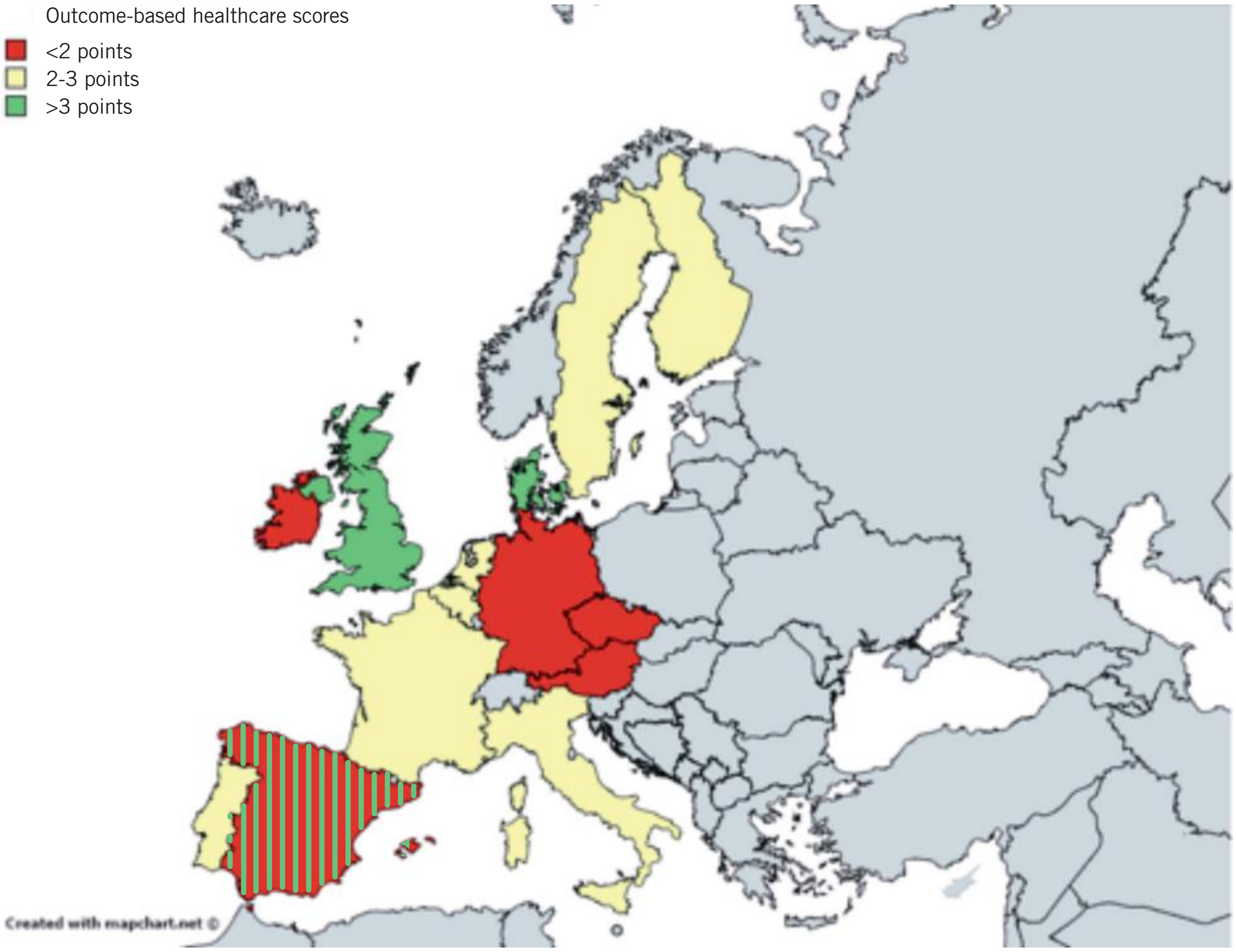
*Spain is a special case for study because the Spanish health system has been fully decentralized, with health responsibilities fully devolved to the autonomous regions (Comunidades Autónomas). This devolution has resulted in 17 regional health ministries being responsible for the organization and delivery of healthcare. In this sense, the score given in Figure 11 is an overall score for Spain but within Spain the score might differ a lot from region to region. For instance, in Catalonia, Madrid and the Basque Country there are numerous examples of integrated care (see section 4 for a detailed explanation) and patient engagement (see section 2).

FIGURE 12. MAP OF OUTCOME-BASED HEALTHCARE SCORES FOR EUROPEAN COUNTRIES



Source: Prepared by the authors

APPENDIX. METHODOLOGY

Data and Transparency Score

Data have been obtained from the Organization for Economic Cooperation and Development (OECD). Specifically, the first six variables are reported in the table on pages 76 and 77 of the report *Competition in Hospital Services* (2012). This table indicates whether or not the different countries have data on the items in question. For each item, 0.1 points are assigned for a Yes and 0 points are assigned for a No.

The last four variables have been obtained from Table D.20, "Data usability evaluation and current secondary uses," on page 178 of the OECD report *Strengthening Health Information Infrastructure for Health Care Quality Governance* (2013). This table follows a similar pattern as the previously mentioned one, indicating whether or not each country is using the available data for the items. For each item, 0.1 points are assigned for a Yes and 0 points are assigned for a No.

Each country's final score is the sum of the 10 variables in the table and can range from 0 to 1.

Patient Engagement Score

Data have been obtained from Health Consumer Powerhouse's *Euro Health Consumer Index 2014*. More specifically, we have selected variable 1.2 ("Patient organizations involved in decision making") and variable 1.7 ("Web or 24/7 phone HC info with interactivity") from the table on page 24 of the report. We assign a score of 1 if the country has a "Green" (high) score in the report, 0.5 if the country has a "Yellow" (medium) score in the report and 0 if the country has a "Red" (low) score in the report. The final patient engagement score is calculated as the average of the two selected variables and can range from 0 to 1.

Integrated Care

Data have been obtained from OECD sources. More specifically, the first three variables have been obtained from Table 29 on page 66 of the report *Health Systems Institutional Characteristics* (2010). In this respect we apply the following conversion in order to obtain a score from 0 to 1 for all the variables:

- "Are disease management programs commonly used?" Yes: 1 point. No: 0 points.
- "Are case management programs commonly used for patients with complex conditions requiring chronic care?" Yes: 1 point. No: 0 points.
- "Do physicians transfer or exchange information electronically for diagnosis or treatment purposes with other healthcare providers?" Regularly: 1. Occasionally: 0.5. Rarely: 0.

The following variable, gatekeeping, has been obtained from question 41, "Do primary care physicians control access to outpatient specialist care?," from the 2012 *OECD Health Committee Survey on Health Systems Characteristics*. The score is given according to the answers:

- 1 point if the answer is "Primary care physician referral is compulsory to access most types of specialist care (except in case of emergency)."
- 0.5 points if the answer is "Patients have financial incentives to obtain a primary care physician's referral (e.g., reduced copayments), but direct access is always possible."
- 0 points if the answer is "There is no need and no incentive to obtain primary care physician referral."

The fifth and sixth variables have been obtained from Table D.15, "Minimum data set defined as part of the National EHR [Electronic Health Record] system," on page 173 of the OECD report *Strengthening Health Information Infrastructure for Health Care Quality Governance* (2013). This table provides an answer of "Yes," "No" or "Some" for each country, according to whether it has data on the items. For each country, 1 point is assigned for the answer "Yes," 0.5 points are assigned for "Some" and 0 points are assigned for "No."

The final variable, prevention, has been obtained from OECD statistics. This variable is the share of current expenditure on health used on prevention in 2013. For our group of countries, the original variable ranges from 1.7% for Portugal to 5.9% for Finland. In order to maintain our score from 0 to 1 we have normalized the variable so that the lower value has a score of 0 and the higher value has a score of 1.

The final score is the average of all the variables in the table and can range from 0 to 1.

Financing Score

Data on primary care have been obtained from question 27d, "How are these providers paid for primary care services by key purchasers?," from the OECD Health System Characteristics Survey (2012) and Secretariat's estimates (2014). The score is given according to the answers: "Capitation" or "Global budget": 1 point; "Pay-for-performance": 0.5 points; "Fee-for-service": 0 points.

Data on specialists have been obtained from question 28c, "How are these providers [ambulatory/ outpatient specialists] paid by key purchasers?," from the OECD Health System Characteristics Survey (2012) and Secretariat's estimates (2014). The score is given according to the answers: "Global budget": 1 point; "Pay-for-performance": 0.5 points; "Fee-for-service": 0 points.

Final Score

The final score ranges from 0 to 4 and is the sum of all the previous scores.

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QUOTES*

T

THE TECHNOLOGICAL REVOLUTION […] PROVIDES TOOLS SO THAT ALL OF US, AS PATIENTS, CAN PLAY MORE OF A LEADING ROLE IN OUR OWN HEALTH IN TERMS OF THE PREVENTION, MANAGEMENT AND CONTROL OF OUR OWN ILLNESS.

Javier Martín Ocaña,
Vice President, Fenin

T

THE PENDING INNOVATION IN THE 21ST CENTURY […] IS INNOVATION IN HEALTH POLICIES.

Boi Ruiz,
[then] Minister of Health in the Government of Catalonia

I

IT IS POSSIBLE TO REDUCE COSTS ON THE BASIS OF […] TEACHING PEOPLE TO SELF-CARE, VIA DIGITIZATION AND INFORMATION CHANNELS.

Pedro Nueno,
Founding Chair of the Meeting, IESE Business School

I

IF I HAD TO PICK ONE WORD AS A KEYWORD, I WOULD GO FOR ‘MEASUREMENT.’

Cándido Pérez Serrano,
Partner at KPMG Spain and Coorganizer of the Meeting

T

THERE ARE THREE WAYS: RAISING AWARENESS TO OPTIMIZE RESOURCES, […] PUBLIC-PRIVATE COLLABORATION AND […] A RISK-SHARING SYSTEM.

Iñaki Ereño,
Managing director for Spain and Latin America of the Bupa/Sanitas Group

I

IT IS NOT ABOUT DOING STUFF, BUT IT’S THE RESULT THAT COUNTS FOR PATIENTS.

David Ikkersheim,
Partner at KPMG Health Care Netherlands

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*Based on the 22nd IESE Healthcare Industry Meeting, October 2015.

T

THERE IS SO MUCH RESEARCH BEING PUBLISHED THAT NO ONE DOCTOR CAN KEEP UP TO DATE WITH ALL THE INFORMATION THAT IS AVAILABLE.

Andrew Dillon,
Chief Executive of NICE (National Institute for Health and Care Excellence)

T

THE IMPORTANT THING IS TO CREATE A CORPORATE CULTURE, AND THAT DOESN'T GET DONE IN FIVE YEARS – THAT GETS DONE IN DECADES.

Lluís Donoso,
Director of the Clínic Diagnostic Imaging Center (CDIC) of Hospital Clínic of Barcelona and Executive Director of UDIAT Diagnostic Center

C

CHANGING THE HEALTHCARE MODEL IS FUNDAMENTAL. THIS BASICALLY IMPLIES THAT WE HAVE TO MOVE TOWARD TOTAL INTEGRATION.

Adolfo Fernández-Valmayor,
CEO, idcsalud Group

W

WE NEED TO TAKE ON INNOVATION IN ALL PROCESSES.

Margarita López Acosta,
Head of Sanofi Iberia

O

OUTCOME-BASED HEALTHCARE IS HERE TO STAY.

Núria Mas,
Chair of the Meeting, IESE Business School

O

"[OUTCOME-BASED HEALTHCARE] IMPLIES A FUNDAMENTAL CHANGE IN THE WAY THAT CARE IS DELIVERED.

Jaime Vives,
President for Spain of Roche Diagnostics, S.L.

T

THE INTERNET IS BECOMING A WONDERFUL TOOL THAT LETS EMPOWERED PATIENTS [...] GET INFORMATION, SHARE [...] AND ACCESS TOOLS THAT LET THEM CONTROL THE MOST IMPORTANT VARIABLES IN THEIR ILLNESS.

Tomás García Gómez,
CEO and Managing Director of People Who Global

T

THE EMPOWERMENT OF THE PATIENT IS REALLY IMPORTANT, BUT IT IS ALSO VERY IMPORTANT TO ENSURE THE INFORMATION IS TRUE.

Jordi Ramentol,
CEO of Ferrer and President of the Association for the Self-Care of Health (ANEFP)

W

WE HAVE TO KEEP VERY CLEAR IN OUR MINDS THAT THE CHALLENGES THAT WE ARE CONFRONTED WITH IN THIS NEW HEALTHCARE ERA ARE TOO COMPLEX TO BE SOLVED BY ONE SINGLE STAKEHOLDER.

Belén Garijo,
Member of the Executive Board and CEO in Charge of Healthcare at the Merck Group

B

BEFORE, SCIENCE WAS ENOUGH. [NOW] SCIENCE IS VERY IMPORTANT BUT VALUE NEEDS TO BE ADDED.

Jordi Martí,
Vice President and General Manager of Celgene Spain and Portugal

T

THE PROBLEM IS THAT WE STILL DON'T KNOW WHAT TO DO WITH THAT INFORMATION […]
IN FACT, 3% OF THE INFORMATION IS BEING UTILIZED IN A USEFUL WAY.

Luis Campo,
Iberia General Manager at GE Healthcare

I

IT'S NOT BIG DATA ANYMORE – IT IS A TSUNAMI OF DATA.

Haig A. Peter,
Executive Consultant and Cognitive Computing Ambassador at IBM Research Zurich

T

TECHNOLOGY MAKES COSTS CHEAPER.

Víctor Grífols,
President and CEO of Grifols, S.A.

W

WE ARE PRODUCING MODERN MODELS THAT ARE ATTRACTIVE FOR THE PARTIES AND IN LINE WITH WHAT THE 21ST CENTURY NEEDS – THAT IS, SHARED RISK.

Antoni Esteve,
President of Farmaindustria

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A MARK TO MAKE
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