

The *Triple Aim* for the future of health care



Edited by
Núria Mas and Wendy Wisbaum

FUNCAS Social and Economic Studies

THE “*TRIPLE AIM*” FOR THE FUTURE OF HEALTH CARE

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FUNCAS Social and Economic Studies

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Introduction and overview

The Spanish health care system, like many other health care systems around the world, is facing the simultaneous challenges of an ageing population, increasingly complex chronic conditions and limited resources. With this backdrop, along with many current debates about the sustainability of the health system and 9.3% GDP dedicated to health, FUNCAS decided to dedicate a special issue of *Papeles de Economía Española* to the health sector. This book, coordinated by NÚRIA MÁS and WENDY WISBAUM, is the English version of this special issue.

The volume, “The *Triple Aim* for the future of healthcare,” intends to show that even though the current health care scenario is complicated, we are better equipped than ever before, with stronger evidence and more accessible and reliable information, to tackle these challenges. The book aims to demonstrate that, although there is much to celebrate because we are living longer than ever and even though the essence of our health care systems is strong, we can do better. We can confront current challenges in the health sector more effectively by re-thinking health care along the lines of The *Triple Aim* of better health, better care and lower cost.*

With this objective, the coordinators have gathered together tangible, hands-on, practical examples of best practices in implementing The *Triple Aim*. The papers were written by health economists or health system experts who reflect on key aspects to take into account in re-thinking health care. The volume includes 12 papers that are divided into the following 6 sections, which are all deemed critical to tackle the current health care scenario and its challenges:

- 1) Importance of The *Triple Aim*;
- 2) Evidence-based care;
- 3) Integrated care;
- 4) Planning and incentives;
- 5) Patient-centered care;
- 6) The health care workforce.

The first section, *Importance of The Triple Aim*, provides a general overview of the relevance and significance of The *Triple Aim* of better health and better care at lower cost. In the article that opens the book, “The *Triple Aim* for the future of

* The *Triple Aim* is a framework developed by the Institute for Healthcare Improvement (IHI) for optimizing health system performance (www.ihl.org).

healthcare,” NÚRIA MÁŠ (IESE Business School, Barcelona, Spain) and WENDY WISBAUM (Independent Health Policy Consultant, Madrid, Spain) present the current context of our health sector and the challenges being faced. The authors explain why our health care systems need serious re-thinking in order to adequately respond to the demands of this new scenario and reflect on the necessary steps for making The *Triple Aim* possible. The next paper in this section, on “Implementing The *Triple Aim*: A senior leadership perspective,” RAFAEL BENGÓA and PATRICIA ARRATIBEL (Deusto Business School Health, Bilbao, Spain), makes the point that even though different countries have very different health care systems, none is getting the best outcomes possible, and all are very far away from a preventive proactive model of care. Thus, the authors emphasize the importance of better care and better health at lower cost brought about through a system transformation. To bring about such a sea change, they discuss the relevant and important role leadership plays, why this is so and how a system transformation that focuses on system thinking, paying for value and population health can be made. They express how the *Triple Aim* is considered to be a key framework to improve on this scenario, and provide real practical examples of how senior European leaders from different countries and regions use the *Triple Aim* to pursue this kind of system transformation.

Next, the section on *Evidence-based care* reviews why it is important to have evidence for decision making in the health sector. This section starts with a paper entitled “Better care and health: Incorporating the opportunity cost into decision making” by MARTA TRAPERO-BERTRAN (Health Economics Research Center, CRES-UPF, Pompeu Fabra University, Barcelona, Spain), which concentrates on the importance of improving the efficiency of health care. The author explains how more spending on health does not necessarily lead to better health, and focuses on the importance of opportunity cost. The aim of this paper is to diagnose some OECD health systems, in particular Spain’s, in terms of their criteria for health coverage and public funding, to highlight the importance of disinvestment in ineffective practices, and to promote actions that improve the efficiency of health systems. This section then includes a paper that is a hands-on practical example of using evidence for improving health by discussing screening for type 2 diabetes, entitled “Should we screen for type 2 diabetes?” by JAANA LINDSTRÖM (National Institute for Health and Welfare, Helsinki, Finland). In this paper, Lindstrom begins by describing how type 2 diabetes is a serious disease with an enormous economic and social burden, and how primary prevention is the only strategy which can lessen the problem. She expresses that screening programmes are warranted, but only if they aim to identify individuals with high risk of getting type 2 diabetes in the future. Finally, she describes a simple, non-invasive tool – FINDRISC – to identify individuals at high risk for diabetes who will benefit from lifestyle counselling in order to prevent the development of type 2 diabetes.

The volume's third section, *Integrated care*, is important because integrated care is increasingly recognized as critical for facing our current health challenges. In this section, NICK GOODWIN (International Foundation for Integrated Care, London, UK) writes on "Integrating care for older people with complex medical problems." This article provides an understanding of what integrated care means and the problems it seeks to address when coordinating care for people with complex and long-term medical problems. The author examines the potential of integrated care to meet *Triple Aim* goals through several international case examples. The chapter then summarises the latest evidence for integrated care's effective delivery to older people in practice and concludes by examining seven interrelated strategies for its successful implementation.

The fourth section covers *Planning and Incentives*, also deemed crucial for understanding health care tendencies and health systems' priorities. The first paper in this section is on "Health system genetics and tentative appraisal of their effectiveness" by GUILLEM LÓPEZ-CASASNOVAS and NATALIA PASCUAL-ARGENTÉ (Health Economics Research Center, CRES-UPF, Pompeu Fabra University, Barcelona, Spain). This paper classifies health systems, describes current tendencies, and explains recent reforms and future challenges in Spain. After classifying health systems into the categories of regulated, public, and public and private, the authors analyse recent trends and transitions. Because all countries tend to pursue the ideal of universal coverage, they identify redistributive factors and areas of health economics research that should be kept in mind when defining health system genetics. Finally, the paper appraises recent changes in the Spanish health system's DNA and explores its possible future evolution. REINHARD BUSSE and MIRIAM BLÜMEL (Technical University, Berlin, Germany), write the next paper in this section called "Payment systems to improve quality, efficiency and care coordination for chronically ill patients – A framework and country examples." They focus on new payment mechanisms in six countries – Australia, France, Germany, the Netherlands, the United Kingdom and the United States – and, based on a self-developed conceptual framework, they examine to what degree these mechanisms have developed and implemented incentives for providers to improve coordination and/or quality of care. Although they find that promising approaches exist for both paying for care coordination and for paying for quality, countries do not currently aim at achieving both objectives at the same time. Thus, the authors identify the need to link the two approaches by developing payment mechanisms that incentivize both quality and care coordination. The final paper in this section, "The role of co-payments in public universal healthcare systems," focuses on the current hot topic of cost-sharing through copayments, an issue of heated debate across the world in recent years due to increased budgetary constraints. This article is by JAUME PUIG-JUNOY, (Health Economics Research Center, CRES-UPF, Pompeu Fabra University, Barcelona, Spain). The main objective of this paper

is to analyze changes in the role of copayments in public health systems with universal coverage. In addition, the author describes international experience with innovative value based copayment alternatives. Finally, he looks at the observed impact of mandatory copayments for pharmaceutical prescriptions in the Spanish National Health Service (SNS) starting in 2012 when cost-sharing measures were adopted.

The fifth section of the volume is on *Patient-centered care*, a key and growing component of the new context of health care. With more information available to patients due to the internet than ever before, patients are empowered to be active participants in their care. This section has two papers. The first, entitled "Supporting patient activation to achieve the *Triple Aim*," is by JUDITH HIBBARD (University of Oregon, USA) shows how patients who have the knowledge, skill, and confidence to manage their health, are more likely to engage in positive health behaviors, to use health care resources more effectively, and to have better health outcomes. This author reviews the evidence linking patient activation to outcomes and identifies strategies that increase patient activation. The author concludes with an overview of how health systems use knowledge about their patients' activation level along with clinical profiles to tailor care pathways that more effectively meet patients' needs, and are more efficient in their use of health care resources. The second paper in this section, "Patient involvement: patient participation in decision making" by MARIA DOLORES NAVARRO, (Albert J. Jovell Institute of Public Health and Patients, International University of Catalonia and Spanish Forum of Patients, Barcelona, Spain) describes how we are currently in a context of complete change. The author outlines how patients have more capabilities than ever before to actively participate in their health care but that they need training and proper understanding in order to do this properly and effectively.

Finally, the last section is on *The Health care workforce*, a critical component for effective health care. In the end, the interface of the health care system and the patient – of course – lies with health care personnel. If health professionals do not alter their work ways to reflect the new context and challenges of health care, the *Triple Aim* will be impossible. The first paper in this section lays out "The economics of interprofessional education: Costs and benefits," by HUGH BARR (University of Westminster and Centre for the Advancement of Interprofessional Education, London, UK) and JUAN JOSÉ BEUNZA, Department of Clinical Sciences, University Europea, Madrid, Spain). This article explains how interprofessional education (IPE) can save resources when it is designed to strengthen primary care, avoid or delay hospital admission, improve treatment, expedite discharge planning, coordinate after care, reduce error and/or deploy the workforce optimally while enhancing patient experience and outcomes. These authors describe how investment in education and training systems is

essential before these benefits will follow. They also they imply that IPE takes many forms, before and after qualifying in the university and the workplace, and varies markedly in cost. Finally, the last paper in the book, entitled “The quality of long-term care work in Europe: An exploratory analysis of wages and job stability,” is by STEFANO VISINTIN (University of Amsterdam, Netherlands), MARTA ELVIRA, CARLOS RODRÍGUEZ-LLUESMA and SEBASTIÁN LAVEZZOLO (IESE Business School, University of Navarra). These authors present powerful data on the long-term care (LTC) workforce in Europe and show that there is a potential danger of workforce shortages in long-term care in Europe. They express that, although this is normally attributed to poor working conditions, this analysis shows that these jobs fall under the classification of low-wage/low-quality work in some European countries, but not all. Thus, they make the point that regulation could provide strategic incentives to this sector beyond incentives oriented to the labor market in general. Using the European Union Labor Force Survey, the authors analyze workers’ wages and job stability in the LTC sector relative to the overall workforce. In addition, they explore how labor-market institutions and human capital explanations may account for differences across countries. Finally, they highlight the importance of understanding past and current trends of LTC because, as they indicate, the quality of these services in the future will depend on these dynamics.

PART I

Importance of the *Triple Aim*

THE “TRIPLE AIM” FOR THE FUTURE OF HEALTHCARE

Núria MAS

Wendy WISBAUM

I. CURRENT CONTEXT

Advanced economies face profound economic, budgetary and social risks, which are at the center of the debate about the sustainability of our healthcare systems.

First, there is the increasing concern about the rise in healthcare spending in most OECD economies. For the average of the OECD, total healthcare expenditure has risen from 6.9 percent of GDP in 1990 to 7.8 percent in 2000 and to 9.5 percent in 2010. However, this level has been decreasing with the economic slowdown and in 2013 it had fallen to 9.3 percent of GDP (OECD, 2014). The United States (US) is leading the list with health spending that reached 17.1 percent of its GDP in 2009 but its growth has slowed in recent years and its health spending as a percentage of GDP decreased to 16.9 percent in 2012. Spain has had a different experience. Even in spite of the financial crisis, health spending has continued on an upward trend. In 1990, health spending was 6.5 percent of GDP, which was below the average OECD spending, but by 2012 it reached the OECD average of 9.3 percent.

The potential implications of this trend for the sustainability of our healthcare systems become more evident if we take into account the empirical fact that shows that, as a country gets richer, it tends to spend a larger proportion of its income in healthcare. Hence, if anything, healthcare spending is likely to only increase over time, at least this is what most of the projections are indicating (OECD 2013). Since Joseph Newhouse (1977) drew attention to the strong positive relationship between per capita health spending and per capita GDP, several studies have re-examined his basic result. Earlier studies that examined the per capita GDP elasticity of per capita health spending have found that aggregate income is the main factor explaining variations in health spending across countries. Moreover, with very few exceptions, most of these studies have found income elasticity above one (Schieber and Maeda, 1997; Getzen, 2006; Gerdtham and Jönsson, 2000).

Second, the total gross amount of debt (public and private) as a percentage of GDP has increased substantially in advanced economies (Bank of International

Settlements, 2011 and Reinhart and Rogoff, 2013). This amount exceeds 300 percent of the GDP for most of the European economies, while Japan and the UK have surpassed the 500 percent level (IMF, McKinsey Global Institute). If we focus on public debt only, the picture is equally worrisome, with countries like the UK, France or the US already having topped the 90 percent threshold level. This government debt is much smaller than the amount represented by *Unfunded Liabilities*, the promise of pensions and health care made to future generations. A study from the OECD (Gokhale, 2009) found these amounts to be up to seven times higher than current government debt levels.

Third, the population in advanced economies is rapidly ageing. Longevity will lead to a deterioration of the dependency ratio and its consequent increase in pressure for public funds. Moreover, longevity also implies a shift of the burden of disease from acute to chronic conditions. Between 70 to 85 percent of total healthcare spending in advanced economies is devoted to patients with at least one chronic condition. These patients also represent 85 percent of healthcare utilization in the US (Anderson, 2010), while in the UK they signify 80 percent of primary care consultations and 66 percent of emergency hospital admissions (Department of Health, 2004).

With population ageing and the very plausible increase in healthcare spending, the big question for our economies is not as much about whether this increase in spending is sustainable – since this is mostly related to the fact that, thus far, societies seem to want their health spending to increase along with their income – but whether these limited resources are being used in the best possible way. That is, whether the additional cost is justified by the additional value in health. This also includes the opportunity cost of those resources sacrificed which are no longer available to finance pensions or other goods and services.

The best hope for our healthcare systems is for them to adjust to the current context, reality and challenges and adapt accordingly to achieve the *Triple Aim* of better health and better care at lower cost. But, is this possible? And, if so, how can we get there?

II. IS THE “TRIPLE AIM” POSSIBLE?

The *Triple Aim*, a term coined by Don Berwick, Tom Nolan, and John Whittington in 2008, and developed into a framework by the Institute for Healthcare Improvement involves the following three goals (Berwick *et al.*, 2008):

- Improving the patient experience (better care);
- Improving the health of the population (better health);
- Reducing the per capita cost of health care (lower cost).

Over the past five years, this term has gained popularity as all high-income countries grapple with ageing populations, an increase in chronic conditions, and limited budgets. Although these countries have different health care systems, the current challenges facing these systems are the same. Is the *Triple Aim* possible?

We believe that the answer is YES. There is significant evidence showing that a substantial amount of resources that we are pouring into our healthcare systems does not necessarily translate into better health. The latest example comes from the Institute of Medicine report *Best Care at Lower Cost* (Institute of Medicine, 2013),¹ which finds that about 30 percent of healthcare spending in the US does not improve health. When looking at potential cost reductions for seven hospital interventions in OECD countries, another author reached a number between 20 to 30 percent (Erlandsen, 2007). In recent years, health care growth has slowed in the US and Cutler and Sahni (2013) find that this is mainly due to fundamental changes in the way healthcare is practiced.

Having said this, however, it is also very important to note that there is even more extensive evidence showing that, on average, healthcare spending is well worth it (Cutler, 2004). Thus, how can we reconcile these two views? The answer is that we can do better. Even though spending more on the sick does improve health, this does not mean that there is no room for improvement in our spending and organization of healthcare. Some clear examples include patients who receive unnecessary care or who miss potential opportunities for prevention.

How?

There are several steps that might help our healthcare systems achieve this triple goal.

1. *Look around:* Many countries are becoming increasingly interested in learning from each other. Comparative cross-country analysis can help us better understand where our country is lagging behind and where it is the best performer.

¹ The Institute of Medicine is an independent, not-for profit organization that is part of the National Academy of Sciences. The report was led by top clinicians, business leaders and health policy experts. (http://books.nap.edu/openbook.php?record_id=13444).

However, this is not the only level at which comparisons are interesting. Experiences within countries might be extremely useful as well. As stated in Fisher *et al.* (2009) regarding the US: "By learning from regions that have attained sustainable growth rates and building on successful models of delivery-system and payment-system reform, we might, with adequate physician leadership, manage to "bend the cost curve."

There is no point in reinventing the wheel. Most likely, when we are considering a new approach, there is some other country, region, hospital, etc. that has already tried implementing it. Learning from other experiences might significantly increase our probability of succeeding.

2. *Understand what works and why.* There are large variations in medical practice across countries and across regions within a country (Dartmouth Atlas of Health Care). It is also generally acknowledged that a big proportion of these variations is not explained by differences in the health of the population (Fisher *et al.*, 2009). In other words, there are other explanations as to these differences that we need to understand.

Identifying similar experiences is a good first step. However, for this to be useful, we need to know why certain experiences have been successful. Only by understanding the mechanisms behind success can an experience be replicated or adapted in a successful way for a different health system or provider. This aspect is crucial since the differences across health systems are enormous (Paris *et al.*, 2010).

3. *Measure, measure and measure.* Sharing information and being transparent regarding results is crucial. We need to identify some indicators that will allow us to measure results in healthcare. We cannot improve areas when we do not know what we are doing wrong. Also, we cannot learn if we do not know what are the best examples to follow.
4. *Promote value-based healthcare.* The *Triple Aim* requires taking into account the costs and benefits of different treatments, making sure that the treatments that we provide are the ones that bring the most value in terms of health given their cost.

This is, however, easier said than done. Difficulties arise from both sides of the equation: for instance, when measuring value, we have to take into account that patient outcomes are multidimensional and far more complex than just the survival of the patient.

Measuring costs is not much easier either. Kaplan and Porter (2011) even claim that "...there is an almost absolute lack of understanding of how much it costs to deliver patient care". The truth is that most of our systems are not prepared to identify all of the relevant expenditures at the patient level since most of the measurements – at best – are related to averages. However, interest in developing more accurate ways of measuring healthcare costs is already translating into more generalized attempts and improvements in this direction.

The key point here – in value-based healthcare – is that when making decisions in healthcare, we need to go beyond costs. Minimizing costs is simply the wrong goal. We need to look at what brings value in health.

5. *Utilize technology.* We are better equipped than ever before regarding access to huge amounts of critical data and the immediate use of this data. The powerful and growing impact of technology in healthcare delivery and healthcare status is being increasingly recognized, although we are still far from taking full advantage of its great potential. Some researchers (Hillestad *et al.*, 2005) have already highlighted the possible health and financial benefits of health information technology. Technology can also help us direct patient-tailored health care. In addition, technology can play a fundamental role in helping us manage the growing complexity of the healthcare landscape by facilitating such areas as the dissemination of knowledge, and our real-time access to it.
6. *Redesign payment systems.* The *Triple Aim* requires a more integrated vision of care than in the past, with an emphasis on prevention and on disease management. Thus, this change requires a corresponding change in payment systems and incentives. We need to explore different kinds of payment systems to ensure that they are in accordance with our goals and objectives. Also, we need to take into account other important aspects, such as timing and the agents involved. In other words, when will the benefits of certain incentives be reaped and by whom? What agents play a role in what processes? To give a simple example: fostering prevention leads to less morbidity in the future and hence, probably lower costs. However, these benefits will not be visible until years later. How can we make sure that we have enough incentives for prevention today, even if the savings will take place in the future? Our incentives need to be aligned to reflect our priorities.
7. *Change the culture of health:* We need to build a bigger picture of what health means. Health in our society, especially with the rise in chronic conditions, goes beyond what has been traditionally understood as healthcare. Health involves education, our workplace, our community...

Being healthy and staying healthy has a great deal to do with our behavior. In more industrialized economies, more than one third of all disease burden is caused by tobacco, alcohol, high blood pressure, cholesterol and obesity (WHO, 2002).

We are all in this together. Healthcare professionals, hospitals and primary care institutions, governments, insurers, pharmaceutical and medical device companies, patients and society in general... we must all work together in order to foster healthy societies.

The time has come for structural reforms in healthcare. Not because of the financial crisis –which, of course, has made the need for such reforms more evident– but because our healthcare systems have become obsolete. Our healthcare systems were designed when most care was devoted to acute conditions, while today, most health spending is concentrated on managing chronic conditions. The majority of our systems are acute-care focused, based on an interaction with the system that results in a cure or death. This was the traditional role of the healthcare system and appropriate for most of the twentieth century. However, chronic conditions require a different kind of system. Unlike the acute care outcome of being cured or dying, chronic care needs continuous management over time. This requires many different interactions with the system and it cannot be simply dealt with as serial acute episodes (Allotey *et al.*, 2011). Thus, our systems must be modified accordingly.

III. CONCLUSIONS

While easy to understand, the *Triple Aim* of better health and better care at lower cost is a challenge to implement, but there are examples of steps taken in the right direction. In fact, the very good news is that there are many positive, replicable examples that we can learn from, examples of population-based, chronic care focused, integrated care. This issue of *Funcas Social and Economics Studies* aims to present and examine these examples and shed some light on these issues and current challenges. To do so, it will look at both international experiences as well as the current situation in Spain. Most importantly, the idea is not to change the core of our health care systems – which have already proven to bring value to our societies – but to make our systems better. In other words, how can we use limited resources in the best possible way while keeping the essence of our health care systems in tact? It is a challenge, but we are confident that by looking at and debating what works and why, we can indeed move forward and promote better health and better care at lower cost.

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IMPLEMENTING THE *TRIPLE AIM*: A SENIOR LEADERSHIP PERSPECTIVE¹

Rafael BENGOA

Patricia ARRATIBEL

I. BACKGROUND

There are numerous health care systems in the world undertaking the most important reforms in decades. An increasing number of them build around the *Triple Aim* as a framework.

Although most health care systems are different from each other in many ways, they all have some fundamental challenges. All have poorly coordinated care, most are paying for volume and not for value, all use about 50 % of expenditure on only 5% of the population, all have key challenges in prevention, quality and patient safety, chronic patients everywhere receive fragmented and non continuous care and all could reduce numerous hospital admissions and readmissions. Whether one is using 8 % or 17 % of GDP, none is getting the best outcomes possible, and all are very far away from a preventive proactive model of care.

The *Triple Aim* is perceived by many as a key framework to improve on that scenario. There is growing awareness at the policy level about the *Triple Aim*. This paper describes the way several senior European leaders have used the *Triple Aim* to pursue system transformation.

The power of the *Triple Aim* for senior leadership is its focus on system thinking, paying for value and population health. It is quite striking and revealing to be in 2014 and understand that there is practically no health system anywhere genuinely built around population health. There are many reasons for this but one key reason is the lack of awareness of policy makers about these frameworks and about how to implement them. The *Triple Aim* is a practical framework for leadership at all levels but senior leadership has a key role to play because in most cases, this is the level responsible for a system perspective.

An additional reason for senior leadership involvement is the fact that the *Triple Aim* will not happen at scale unless there is a powerful policy intervention.

¹ This text is based on the project DBS Health implemented for the European Office of the World Health Organization.

Most health “systems” in Europe have the ingredients to move forward successfully on this front and in many countries there are efforts implementing different elements that build up the *Triple Aim*. For example, in some countries, one can identify efforts on new bundled payments and global payment reforms, in others one can perceive a broader population focus and in still others, there are increased integration efforts between levels of care.

However, in most countries these efforts have not been assembled at the policy level and frequently have not been conceived as an integrated package of reform. The following sections describe some lessons from several countries which have explicitly embedded this thinking at the policy level.

II. THE *TRIPLE AIM* AS STRATEGIC RESPONSE

1. Context

Most European countries have some form of universal coverage. While universal health coverage has been generally successful in Europe, countries agree that the present payment and delivery system will not create the organization of the future and therefore the intention in the past few years has been to go beyond short term improvements and initiate a mid-term strategy to transform their systems.

In addition, the ongoing economic crisis in Europe has made the numerous vulnerabilities of all health care systems more visible. The immediate reaction in many countries has been cost containment. Senior leaders have reacted to this difficult immediate context. Thus, day to day crisis management has been centred on taking some major cost containment decisions, especially regarding human resource salaries, the pharmaceutical budget and co-payments.

However, there is a growing acknowledgement by senior leaders that these interventions do not correct the main problem of health care – its basic design around reactive episodic care and a weak focus on population health.

In other words, many senior leaders acknowledge that even if these crisis decisions are handled in an effective way, they do not create the capacity for health systems to cope with the future challenges of demography, chronicity, prevention, fragmentation, sustainability and patient centeredness. Consequently, senior leaders do not wish to have an exclusive focus on rationing and cost containment and are seeking to identify a more strategic response.

The *Triple Aim* provides a new framework for that strategic response.

That response is picking up speed in many European countries as a useful framework for the broader transformative agenda. In fact, the *Triple Aim* is beginning to appear in more policy documents in Europe. Interestingly, it is being used as a policy framework in both Beveridge types of systems of the North and South of Europe and in more market-based insurance systems of central Europe, such as the Netherlands. This fact seems to validate its intrinsic value as a framework and as a planning tool to drive change in very different settings.

As a result, today in Europe as well as elsewhere, most of the policy decisions in health care are not about having to decide whether to ration or to transform. Rather it is about finding the right balance of both and not letting rationing dominate the transformation.

2. What are they implementing?

The consequence of this thinking is that several countries are putting in place a battery of management and organizational processes that can give shape to the *Triple Aim*. They are creating organizations that can integrate care, reason in terms of a population perspective, and have an explicit line of patient empowerment and self-management. These examples have reinforced community service so that more can be done out of hospitals, encouraging work across organizational boundaries, as well as with strengthened primary care in order to effect a shift in the balance of care. This often involves paying for value instead of simply paying for activity, and accelerating home care technological support schemes and improving coordination with social services.

The great number of activities in countries developing these lines of work is as variable as the different health care systems in Europe. Each is trying to give shape to these new processes in their own reality. The degree to which they are being implemented also greatly differs. In many countries they are simply pilot experiences, while in others there is a more advanced scaling up of certain programmes and stronger policy engagement.

Despite this variability, it is possible to talk about a trend and there is much potential learning from all these experiences. One common area of learning area is *how* senior leaders are implementing these complex changes. The following section is based on a battery of interviews with senior leaders in several European countries and in the USA and on the identification of common learning points as leaders move forward in implementing broader system change.

The countries and regions in Europe that were interviewed were Netherlands, Northern Ireland, Scotland and the Basque Country in Spain. In the USA, the senior leaders interviewed were from Massachusetts and Colorado.

3. How are they implementing?

The intention of this section is not to be prescriptive but to understand some “lessons” from senior leaders who have been implementing system change in their countries, most of which have used the *Triple Aim* as a policy framework.

In a sense it outlines a *framework for implementation* as perceived from a senior leadership perspective.

Different health care systems, similar mindset

The common denominator for senior leaders in many countries is the fact that they are launching system-wide transformations. Although from very different health care systems, senior management seem to share the following key conceptual lines for such a transformation:

- given the challenges of today, business as usual, even if better managed, will not create the organisation of the future.
- transformation implies key cultural and operational changes in health care systems.
- something very different has to happen at the delivery of care level.
- payment mechanisms are not aligned with the need to integrate care at the provider level.
- health and the social services sector are not working together and if they were, there would be better outcomes and savings.
- front line improvements and innovation at the provider level need to be encouraged.
- there is a rising need to use more empowering and employee engagement approaches to support innovation in the front line.

Appropriate orchestration from the policy level

In view of the complexity and the systemic nature of the changes required, it seems that in most countries an organised policy level intervention has been considered necessary.

The *Triple Aim* provides a framework for that organised policy intervention. Consequently, and as a first step by senior leaders, the *Triple Aim* has been “raised” to be a policy framework in several regions and countries.

It is worth highlighting that although some level of policy orchestration from those in leadership positions is required, at the same time, it is considered necessary to allow for emergent innovation from the local level. It is worth emphasizing that this type of orchestration is different from the top down changes pushed down into the system in the past. A better combination of push and pull strategies is sought by identifying processes which appeal to commitment rather than compliance. In a certain way push strategies are being diluted and pull strategies are being emphasized. The latter approach is sometimes counterintuitive for decision makers at the policy level and most leaders imply that it requires time and effort.

A burning platform for implementation

Although to different degrees, all countries shared similar reasons for system reform. Before proposing a transformative policy, however, it is considered useful by senior leaders in several countries to create a need for change in an organised way. It seems reasonable not to propose a solution (the *Triple Aim*) upfront without extensively explaining what the problems are and why that framework may be a solution. Thus, an ambitious communication strategy about the need for change is considered essential.

The main challenges expressed as reasons for change are affordability, patient safety, care fragmentation, deficiencies in the management and prevention of chronic conditions, the lack of patient and community engagement, an illness culture rather than a health and population perspective. To many, it may seem that these issues are self-evident and do not need to be explained. However, organising these challenges and communicating them effectively are considered key steps in creating the urgency for change.

Positive disruption

In the challenging context of Europe, one key commonality across countries was an understanding by senior leadership that lowering expenditure,

improving quality and developing a population focus required more than a traditional management intervention.

Using the *Triple Aim* necessarily implies shifts in the traditional balance of power as it becomes necessary, for example, to implement new payment systems which avoid hospitalizations and re-hospitalizations or programs that empower patients.

In this context, is it evident that there will be resistance to change and it is therefore most important to use disruption in a positive way and to have a planned approach to change.

One must ensure that one's personal capital as a senior leader is used in worthwhile disruption – that which creates change – and not on disruption that does not change the care model. For example, there are numerous senior leaders who use all their credibility on issues such as co-payments which do not actually change the care model.

A compelling but reachable vision for change

It is well known that it is key to have a compelling vision for change as it provides the sense of direction required in ambitious change. The first step at the policy level frequently implies the development of a new vision, a new narrative of the future. The logic of the *Triple Aim* seems to be particularly handy for this purpose as it provides a “systems” framework. A “system” narrative is useful in order to avoid the more traditional “vision” with a long list of programs.

This system perspective helps build coalitions around key policy dimensions. It leans on improvements for patients rather than structural changes. In change terms, this focus on patients is key as in most countries there is growing reorganizational “fatigue” and simply playing with the structures does not provide an appealing vision.

One of the main benefits mentioned of having this vision is that it permits senior leaders to have a planned approach to change and to help build broader than normal coalitions for change.

System leadership

Implementing the *Triple Aim* at scale is a system issue in strategic terms. A system response is considered necessary because of the strategic nature and scale of the change required. The transformative agenda therefore is complex

and requires the right combination of strategies. This has huge implications on the leadership of the organization.

From a policy perspective, a balanced approach of top down and bottom up will be key in its implementation. This balanced approach will not happen spontaneously and therefore some form of organised plan is required. To have a “plan” does not imply micromanaging the implementation of the *Triple Aim*; it implies creating the right conditions at the top level for other levels to implement it successfully.

Furthermore, a planned approach to a transformative process implies some form of “system leadership”. A better combination of push and pull change strategies implies a transformation on leadership at all levels but especially at the senior level. At this level, health care transformation seems to be best achieved by a “channelling” leader, a person who facilitates and directs the organization’s energy.

This implies avoiding pushing policies onto the system. Rather, it implies developing a vision and creating the conditions for local improvement as a key mechanism to ensure implementation. Consequently, these countries shared a collective or “distributed leadership” approach; one very much centred on creating conditions so that local organizations could innovate and advance.

Assigning responsibility and accountability to the local level for delivery and developing the capacity for it is key in advancing towards the *Triple Aim*. This is beginning to be visible across countries and regions and therefore, it can be considered that senior leaders are creating conditions for local innovation in real life.

The consequence is the growing number of “local organizations”. These organizations have different names in different countries (e.g., care groups, accountable care organizations, microsystems, locality delivery partnerships, managed clinical networks, integrated care pioneers) and they come in all shapes and forms but they all share the same philosophy – to deliver more integrated care and reason in population health terms at a balanced cost.

The leadership behaviour behind this trend is a significant departure from the more centralised management approaches of the past.

Many aligned levers

Many factors influence cost and quality of care so an effective strategy for enhancing them is likely to include a variety of policy interventions. Most countries use many levers to seek leverage for the system transformation.

The sum of interventions to counter care fragmentation, deficiencies in the management and prevention of chronic conditions, the lack of patient and community engagement, the need for population management and paying for value rather than for activity all require a complex transformative agenda and more complex leadership behaviour.

Which levers to use is specific to the situation and the country but it seems essential to follow the principle of a multidimensional intervention. Furthermore, if one moves many types of interventions simultaneously it is key to keep all those initiatives aligned. A multi lever approach to system reform carries with it the risk that the projects which comprise the reform will be a succession of fragmented and sometimes inconsistent stand-alone initiatives. It is therefore necessary to have mechanisms to ensure consistency and alignment across the projects.

These alignments are essential because frequently, some provider organizations and unions may want to resist the change required and one effective way for them to do this is by pointing to inconsistencies among the interventions launched.

A “high involvement culture” with health care professionals

One key explicit principle in the reforms, which is linked to the previous “channelling leadership ” approach, is one which leans on health professionals and local managers as key agents of change.

All countries agree that most of the required changes imply cultural shifts in the present health care systems and that this cannot be done without the engagement of health professionals. Where management leadership shapes a positive and supportive environment for health professionals to do good work, patients report better care and there is evidence of declining patient mortality and even more efficiencies. That is to say that the one key predictor of positive patient outcomes and satisfaction is the level of employee engagement. Evidence indicates that staff engagement is also linked to improved financial performance in an organization. Given these positive signals when one implements improvements in a participative way, it seems that learning from experiences on how to achieve staff engagement among countries will be a key priority in the next years.

This approach to “high involvement cultures”² requires an environment where staff can innovate on organizational issues that improve delivery of care

² “Leadership & Engagement for Improvement in the NHS. Together we can.” Report from The Kings Fund Leadership Review 2012.

(and not only on clinical issues). Command and control from above will not accomplish this and it will fail to exploit the energy in the organization. In many ways, this implies that the changes required by the *Triple Aim* approach will be more successful if they are implemented in a setting which encourages clinician and health professional engagement.

In implementation terms, top management is learning to create such participative cultures, demanding ambitious objectives and letting innovation rise from the ranks.

Building the *Triple Aim* is a mid-term accomplishment. A further interesting consequence of launching a health professional engagement process is that it reinforces future continuity of projects beyond the established political cycles. Incoming governments are continuing the changes initiated by preceding governments, among other reasons because the health professionals engaged in the process wish to continue them.

In most countries, politicians are changed following elections and subsequently, managers as well. If everything has been managed top down, the probability of those projects fading away with their political promoters is very high. On the contrary, if many projects have been bottom up they are “owned” locally by health professionals this will improve survival beyond political turnover.

Normally, transformative change goes through a series of complex phases. Skipping the stage of “involvement” is tempting from a policy and timing angle, but non participatory approaches will probably not be effective.

Early wins in order to sustain progress

All senior leaders considered “early wins” a key implementation approach and put resources behind it. Furthermore, it is considered important to ensure these early wins are local.

Interestingly, demonstrating early wins has complementarily helped to develop a culture of measurement and in health services research in organizations where evidence is still not the key decision support tool. This will be critical for the credibility of the *Triple Aim* as a strategic framework.

As mentioned previously, most countries are assigning greater responsibility for delivery and implementation planning to some form of local organization or “system.” In order to achieve early wins, it is considered necessary to allow these local organizations to retain a certain amount from the efficiencies obtained. It

is considered highly unlikely that important local innovations in the way health care delivery is provided will be sustained over time if all the efficiencies are recentralised to a central budget line.

Managing the tyranny of the urgent as well as a mid-term transformative agenda

The senior leadership in the countries is well aware of the ‘tyranny of the urgent’ and the need to organise themselves so they are not only absorbed by immediate pressures and have time for strategic change.

In view of all the encouraging developments on the *Triple Aim* in many countries and regions, it seems possible to run today’s health services and simultaneously implement a transformative system agenda if one is organised to do so.

All these changes are being undertaken in an extremely demanding financial cycle. Furthermore, the ‘tyranny of the urgent’ tends to get worse as the crisis is sustained over time.

This short term urgent day-to-day agenda can effectively take over a senior leader’s life, especially if one includes the relationship with the media and the necessary interaction within political spheres.

In most cases, these “urgent” policy decisions imply taking some very tough decisions on salaries, on drug pricing and regulation, on controlling waste and disinvesting in clinical interventions that do not add clinical value, etc. Despite the importance of these short term decisions, senior leaders understand that these decisions do not actually transform health care and that it was necessary to simultaneously launch a complex system transformation.

The other interesting concept arising from all countries leading this double change agenda (management of day-to-day plus mid-term transformation) is that the double agenda is inevitable if one wishes to have a sustainable and high quality system.

PART II

Evidence-based care

BETTER CARE AND HEALTH: INCORPORATING OPPORTUNITY COST INTO DECISION MAKING

Marta TRAPERO-BERTRAN

I. INTRODUCTION

The *Triple Aim* framework should be the basis for moving from a focus only on health care to a focus on efficiency in health for individuals and populations. It is quite established that future successful health and health care systems will be those that incorporate the concept of efficiency into the delivery of good quality care.

Indeed, future expectations reinforce the idea that *Paying for More Doesn't Always Get You More*. Until this decade, health providers did not see the need to incorporate the concept of efficiency into their daily practice; however, this has changed. The stakes are high and there is a great deal of pressure to control health care spending. The more the government devotes to health, the less it has available for investing in jobs, education, and other pressing societal needs. There is extensive literature supporting that more spending does not necessarily translate into better care or a better-functioning health care system (OCDE, 2010a; OCDE, 2010b; OCDE, 2013). The key is to obtain greater value for our health care euros, although this is not easy. This consists of promoting accountable health care systems, but also new incentives that encourage providers, patients, and all agents in the system to make efficient decisions that lead to lower opportunity costs in terms of health outcomes. Spain, as well as other countries, can attain better health, although probably not better care with less money but probably with the same amount of spending.

The aim of this paper is to diagnose some OECD health systems, with a special focus on Spain, and provide instruments and insights to better inform decision making. In order to diagnose the health care system and provide some proposals mostly focused on pharmaceutical reimbursement decisions: (a) the context of OECD countries, and particularly Spain, is described in terms of public funding and health coverage (transparency issues); (b) the implications of and need for reinvesting resources to minimize the opportunity cost on health in Spain are explained; and, (c) some potential actions are put forward for consideration in order to achieve better care and better health with the same amount of resources.

II. CRITERIA FOR HEALTH COVERAGE AND PUBLIC FUNDING IN EUROPE

Health is one of the pillars of individual and population welfare. Although health care is one of the most used and valued public service by citizens in Spain (AEEPP, 2013), society still thinks that we do not make good use of it and still have to improve many aspects (AEEPP, 2014). In the current monetary crisis that many European countries –such as Spain– are confronting, efficient resource management and equity considerations are even more important since now there is more citizen awareness and they demand information on public funding and health coverage decisions. This section describes the main characteristics of pharmaceutical coverage and then presents a brief overview of the pricing and reimbursement process in European countries. This information is mainly summarized from an *OECD Health Working Paper* (Paris and Belloni, 2013).

— Coverage for pharmaceutical care

Many European health systems provide coverage for basic health needs to their populations through a tax-funded National Health System (NHS) (e.g., Denmark, Italy, Spain Sweden, United Kingdom) or through social health insurance (e.g., Belgium, France, Germany, Netherlands, Norway). In all of these countries, the pharmaceutical benefit package is defined at the central level, although in Spain, autonomous communities can offer additional benefits. This benefit basket is defined through positive lists in almost all countries. Belgium, France, Italy and Spain have positive lists for outpatient and inpatient medicines, whereas Sweden has a positive list for outpatient and inpatient care. Denmark and Norway only define a positive list for outpatient medicines or drugs. In constrast, in the United Kingdom in principle all medicines are covered by default, unless they belong to a category excluded from NHS coverage and/or are included on a negative list. In this country, hospitals develop their own formularies. The same occurs in Germany, where medicines are covered as they enter the market unless they belong to an excluded category.

Every country aims to attend to the infinite demand that characterizes all health markets; nevertheless, there are resource constraints. Access to expensive medicines depends on decisions made by providers who face budget constraints. Thus, it is important to set some formal criteria to help make decisions. This process of prioritization should assess the opportunity cost of NHS monetary resources.

— *Reimbursement and pricing policies*

Decisions on reimbursement are based on a pre-defined set of criteria. Basically, reimbursement decisions would be based on two main criteria: (a) therapeutic relevance only; and (b) therapeutic relevance and economic considerations. Some countries consider clinical components of the new product, the nature of disease treated, or the existence of therapeutic alternatives to inform reimbursement decisions (e.g., France, Germany, Italy). Others make decisions based on economic evaluations and consider these the primary condition for listing (e.g., Belgium, Netherlands, Norway, Sweden). According to Paris and Belloni (2013), the main criteria in Spain for reimbursement decisions are a reasonable price in relation to therapeutic value, cost-effectiveness (economic evaluation) and budgetary impact. Once a medicine is considered to deserve public coverage, then price negotiation takes place.

The most common method of price regulation or reimbursement prices of medicines across countries seems to be international benchmarking and therapeutic referencing. The exception of this is the United Kingdom, which, for the case of price negotiation, uses the results of economic evaluations to determine an acceptable price. Therefore, countries have different institutions that are responsible for the assessment, decision making and reimbursement. In Spain, the *Directorate of Pharmacy in the Ministry of Health and Inequalities* carries out the assessment. The Ministry of Health is responsible for reimbursement decisions whereas the Inter-ministerial pricing Committee is charged with pricing decisions and negotiations.

— *Value-based pricing to inform decisions*

The criteria taken into account for reimbursement and pricing decisions are key to understand whether the efficiency concept is considered in the decision making process. “Value-based pricing” aims to be a criterion to use in health related decisions. In fact, in 2010, to reform its 50 year old pharmaceutical pricing regulation schemes, the Department of Health of England and Wales introduced this. The objectives of this reform are to “get better patient outcomes and greater innovation, a broader and more transparent assessment and better value for money for the NHS” (Department of Health England and Wales, 2010). Indeed, this criterion aims to define what is “value” in health and what is a basic cost-effective threshold, reflecting the opportunity cost of NHS funds allocated to medicines. The definition of added value in health is not straightforward, which explains why it is so difficult to establish criteria even in countries where economic evaluation is so historically established in the decision making process. The concept of value is mainly based on added therapeutic benefits in terms of health for patients. Therefore, this criterion implies that if a new product or

indication has no added therapeutic benefit, then the decision regarding its funding depends on a reduction of the cost of treatment. In this case, society will obtain same care and health but at a lower cost. It should be recognized that analytical methods of economic evaluation need to be well established for them to be used for pricing and reimbursement decisions. In England and Wales, the National Institute for Health and Care Excellence (NICE) was created in 1999 to conduct health technology assessment and inform decision-making at local level. This institution has developed explicit and transparent methods in order to conduct economic evaluation analysis.

— *Why is Spain different?*

From the development of the Constitution to the last Royal Decree Law 16/2012, cost-effectiveness and efficiency should guide decisions on pricing and reimbursement in Spain. According to Paris and Belloni (2013), cost-effectiveness studies are sometimes used in Spain to inform price decisions on pharmaceuticals. However, in practice, this does not seem to happen. First, compared to other countries such as the United Kingdom, Spain does not have explicit and transparent criteria stated and established by the government to base decisions on pricing and reimbursement. Second, even if an economic evaluation is taken in account internally, there are no agreed upon analytical models at the central level to conduct economic evaluation analysis. It was only very recently that the regional Catalan government published a methods guideline to conduct economic evaluation and budget impact (Puig-Junoy *et al.*, 2014). Finally, it is not clear which institution is responsible for assessing the economic evaluation. Therefore, unless economic evaluation is set as the criterion for decision making and, as a second stage, a cost-effective threshold is set in Spain, there is no real opportunity for introducing value based pricing.

Currently, the government is focusing on short term measures and containing the health care expenditure. However, according to López-Casasnovas (2010), health expenditure in Spain is at about the right level in accordance to per capita income and the kind of health care system Spain has. Given that the dynamics of spending were very different before the after the crisis, reforms should be designed primarily to improve the efficiency of the system rather than to reduce health spending. In fact, there is a very wide margin for improvement without changing the essential elements of the Spanish public health system.

III. DISINVESTMENT AS A “MUST” FOR INCORPORATING OPPORTUNITY COST IN DECISION MAKING

Cost, in economics, is opportunity cost, defined as the value of a resource in its most highly valued alternative use (Culyer, 2005). It is widely recognized

that several resources used in healthcare systems do not translate into better health of the population (OECD, 2010b), for example, by providing services that are unlikely to improve health, by using inefficient methods to deliver useful services, by charging noncompetitive prices for services and products, and so on. These streams of embedded waste represent an opportunity to reduce per capita health care spending while improving clinical outcomes and patients' care experience.

In recent decades, there has been growth in investment in technologies with very low value on health by pharmaceutical companies. As a consequence, there is strong consensus on the need to stop funding technologies of small value (Nuti *et al.*, 2010). Therefore, the disinvestment measure appears to help in achieving this goal. However, the term disinvestment should not be used to refer to reduced investment or divestment. Along the same lines as Campillo-Artero and Bernal-Delgado (2013), this term should be used for describing the process by which health technologies with lower efficiency than others are either partially or completely defunded to promote those with higher clinical value by the freed resources. The disinvestment must be conceived as a local activity, because there may be justifiable reasons to keep a technology in a particular health area for reasons such as changing demographics, health conditions, resources, etc. Experience in this area points to, for example, prudently starting with unsafe technologies (with high cost-effectiveness ratios), those which are not used to treat serious diseases, those with high budgetary impact, etc. These measures should be accompanied by the promotion of the use of underutilized, cost-effective alternatives.

As detailed already by Campillo-Artero and Bernal-Delgado (2013), several countries have shown that when the reinvestment is made in properly selected medical technologies using efficiency criteria from reliable and rigorous methods, it is possible to release a fraction of the fixed budget to fund new technologies with favorable incremental cost-effectiveness ratios. This minimizes their opportunity cost and improves the social efficiency of the entire health system. The "cutting strategy" happening in several European countries serves only to mitigate the effects of the crisis, but not as a mechanism for regular improvement in efficiency.

For example, countries such as Australia and New Zealand identify technologies that are not cost-effective and establish criteria to prioritize candidates for reinvestment technologies, which include analyzing the obstacles to be faced. In Canada, lists for selected technologies and services that are delisted are regularly published. In New Zealand, decisions on both investment and disinvestment are reported. In Europe, the most advanced country in this area is the United Kingdom through NICE, which has experience reducing the

use of ineffective technologies. NICE identifies candidates for reinvestment technologies and provides recommendations about the prioritization of reinvestment in those technologies whose cost does not justify its clinical value. On the other hand, it also produces information on the costs and savings associated with this process.

In Spain, the conditions for excluding technologies from common services and the procedure for updating this are established by law (Law on Cohesion and Quality of the National Health System 2003, Royal Decree 1030 /2006 and Order establishing SCO/3422/2007). However, although Spain has a regulatory framework that legally welcomes reinvestment, its decentralized nature places reinvestment projects as local initiatives for each community. Thus, Spain's decentralized system does not make things easy in terms of reinvestment.

Therefore, the question is: which technologies should be replaced in order to devote resources to new technologies, maximizing the overall efficiency of the health system? This involves incorporating new technologies and replacing those that do not maximize health outcomes with the fixed budget available. This process is not easy and encounters several problems. However, it is important to work in the pursuit of this goal.

Lower cost on health does not only imply lower resources but better invested resources with a lower opportunity cost for society. Disinvestment, funding health care resources with explicit criteria and incorporating the concept of opportunity cost in decision-making could help in achieving better care and health with limited resources.

IV. POTENTIAL ACTIONS TO TAKE FORWARD

In order to help rationalize health spending in Spain, there are several actions that could be taken forward by the Spanish government. Few organizations and institutions, such as Fundación de Estudios de Economía Aplicada (FEDEA) (Beltrán *et al.*, 2009) or the Asociación de Economía de la Salud (AES) (AES; 2013) have developed and published concrete measures to help improve the Spanish NHS.

The aim in Beltrán *et al.* (2009) was to "take the first step" to generate a dynamic debate about the need for changing the current Spanish health system. This includes a series of four impact measures that could serve to start moving and implementing a new benchmark for future changes. The first measure is to introduce new mechanisms of co-responsibility by users. The aim of this

measure is to improve the quality of primary care and encourage more time for patient care by the physician. This has the intention of being a fairer system that avoids the regressive nature of the current system and redistributes the weight of the contribution among social groups according to their possibilities. For instance, the actions proposed include introducing a moderating demand ticket in primary care and emergency departments. The second one includes systematically incorporating the new features and therapeutic innovation in the system as mentioned above. The third measure is to increase transparency in the performance of health care providers in order to lower costs and improve outcomes (Fung *et al.*, 2008; Mongan *et al.*, 2008; Shea *et al.*, 2007).

And, last, but not least, is to encourage management autonomy and incentive schemes to strengthen the centers and their professionals.

In addition, the recently published book by the Spanish Health Economics Association (AES, 2013) recommends 166 actions grouped into four main chapters: (i) Financing and Public Coverage; (ii) Healthcare Organisation; (iii) Health Policies; and (iv) Good Health Governance. Each chapter is subdivided into a number of different sections.

Some of the main messages are that reforms must be aimed primarily at improving the efficiency of the system while maintaining the essential elements that make the Spanish public health system recognizable. The opportunity cost of the health budget should be clearly stated in order to determine the volume of public resources to finance health care in a transparent and fair manner. This task requires the establishment of an authentic assessment and evaluation culture at all levels and reinforcement of fair governance.

In terms of public benefit coverage, there should be interest in reviewing and adapting the methods to introduce new health technologies in the system in a transparent manner. Therefore, there is a need for evaluators, persons or institutions such as the British NICE, to help on that. Second, economic evaluation and budget impact analysis should be used as key decision making methods to inform public financing and pricing of medicines and medical devices. Third, these analyses should help in identifying those products whose therapeutic value exceeds their opportunity cost and those whose value is inferior. This should be consistent with the concept of "value-based pricing." Fourth, national guidelines and recommendations should be put in place (Abellan *et al.*, 2009, López-Bastida *et al.*, 2010, Puig-Junoy *et al.*, 2014) for the presentation of economic evaluations and budget impact. This should be complemented by consideration of other technical elements, such as the added therapeutic value, the importance of equity, disease severity or the absence of relevant treatment alternatives, to overcome the difficulties inherent in the criteria of efficiency per

se. Fifth, research to empirically estimate the threshold of efficiency or maximum price per unit of effectiveness, in terms of Quality Adjusted Life Years (QALYs) in the NHS, should be promoted. This 'basic' threshold should be weighted by factors that are deemed relevant for the pricing of new health technologies. Finally, sixth, a long-term strategy of disinvestment should be developed, so that the criteria for updating the basic and supplementary portfolios from the NHS cover not only the introduction of new health technologies, but also the disinvestment of those that add lower health value.

Regarding reimbursement and pricing, there is a need to foster policies that promote price competition in the generics market. These include such examples as exploring measures to improve the current maximum reimbursement system on generics, measures to improve the monitoring of competitive prices in order to reimburse pharmacies only the actual costs of acquisition, and measures to promote price competition in public acquisitions based on competitive auctions. There is a need for a deep reform of the reference pricing system. For example, unless demonstrated otherwise, this system already includes the new patented medicines by default. This system needs revamping to reflect the current reality.

V. CONCLUSIONS

In summary, first, the benefit basket covered by the National Health System should be determined through formal established criteria by the government. Second, decisions on reimbursement and pricing should be led by therapeutic relevance and economic considerations. Third, the idea behind the "value-based pricing" concept should be the goldstandard in all European health-related decisions, using economic evaluation as an established method. Fourth, Spain is no different than other countries. There is a need to improve transparency and show that efficiency is taken into account for decision making regarding the Health System. Fifth, the importance and relevance of the disinvestment concept must be understood to promote those technologies with higher clinical value by the freed resources from other less efficient ones. And, finally, there are different institutions and associations that produce specific recommendations to our decision makers with the aim of promoting health in our country, and we need to take these into consideration.

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SHOULD WE SCREEN FOR TYPE 2 DIABETES?

Jaana LINDSTRÖM

I. TYPE 2 DIABETES IS A COMMON AND COSTLY DISEASE

Type 2 diabetes develops gradually and is characterised by a lengthy preclinical phase including impaired glucose tolerance (IGT) and asymptomatic diabetes. It arises as a result of a complex multifactorial process with both lifestyle and genetic origins. When genetically predisposed individuals become insulin resistant due to environmental exposures such as obesity or physical inactivity, they may become hyperglycaemic. The condition is counteracted by increasing insulin production by the pancreatic beta-cells. Finally, when beta-cell capacity is not sufficient to compensate for insulin resistance, hyperglycaemia worsens and overt diabetes will develop. This development usually takes years (Harris *et al.*, 1992).

In Caucasian populations, the proportion of people with genetic predisposition to type 2 diabetes is estimated to be between 20% to 50% (Valle *et al.*, 1997); however, genetic testing to individuals prone to get type 2 diabetes is still considered of little value in clinical practice (Lyssenko and Laakso, 2013). The most important risk factors for type 2 diabetes are obesity, sedentary lifestyle, and unhealthy diet (World Health Organization, 2003). The main drivers of the current epidemic are increasing obesity levels and population aging. Diabetes is a devastating disease due to its macrovascular and microvascular complications, leading to blindness, amputations, renal failure and cardiovascular diseases (International Diabetes Federation, 2012). Treatment of these serious complications is expensive (Anonymous, 1998) and as a result, diabetes care accounts for up to 15% of national healthcare budgets (International Diabetes Federation, 2013). Furthermore, it has been estimated that the costs related to reduced working ability, early retirement and premature death are even higher than the direct costs of diabetes care.

The prevalence of type 2 diabetes has increased steadily during the past decades. The International Diabetes Federation has estimated that 56 million adults in Europe have type 2 diabetes, and by 2035, the number is predicted to rise to 69 million (International Diabetes Federation, 2013). The diabetes epidemic is accelerating in the developing world in parallel with increasing obesity rates, with an increasing proportion of affected people in younger age groups. An added concern is that the diagnosis of type 2 diabetes is often delayed and half of newly diagnosed diabetics already have signs of the complications of the disorder at the time of diagnosis – a marker showing that

the disease already has been prevalent for a lengthy time (Kohner *et al.*, 1998). In population-based diabetes screening programmes, typically for every known diabetic, one new diabetes case is identified (Gregg *et al.*, 2004; Ylihärsilä *et al.*, 2005). In other words, only around one half of present diabetics are aware of their condition. Should we, then, do mass screenings to identify those people who have a serious condition and do not know about it? Does early detection improve the outcome of diabetes complications?

II. PREREQUISITES FOR SCREENING

The definition of screening, in its strict form, is “The presumptive identification of unrecognized disease or defect by the application of tests, examinations, or other procedures which can be applied rapidly. Screening tests sort out apparently well persons who probably have a disease from those who probably have not” (Wilson and Jungner, 1968). The goal of screening is to reduce morbidity or mortality from the disease by early treatment of the cases discovered. Further, the term screening programme includes early detection and treatment of the disease. Screening programmes should only be set for diseases that pass through a preclinical phase, and early treatment must offer some advantage over later treatment (Morrison, 1992).

The universal principles of screening are stated as follows by Wilson and Jungner (Wilson and Jungner, 1968): The condition should be an important health problem; there should be a treatment for the condition; facilities for diagnosis and treatment should be available; there should be a latent stage of the disease; there should be a test or examination for the condition; the test should be acceptable to the population; the natural history of the disease should be adequately understood; there should be an agreed policy on whom to treat; the total cost of finding a case should be economically balanced in relation to medical expenditure as a whole; and case-finding should be a continuous process.

Type 2 diabetes is a disease that fits many of these principles well. There is no question that type 2 diabetes is an important global health problem (World Health Organization, 2013). There is consensus on how type 2 diabetes is diagnosed before clinical symptoms (World Health Organization and International Diabetes Federation, 2006; World Health Organization, 2011), and treatment paths are established at least in developed countries. The results from the UKPDS offer evidence in favour of early aggressive treatment of hyperglycaemia to prevent diabetic complications (UK Prospective Diabetes Study (UKPDS) Group, 1998). Intensive glycaemic control has been shown to significantly reduce coronary events among patients with diabetes (Ray *et al.*, 2009). However, as regards to

benefits of early treatment compared with later diagnosis and treatment, there still is no definite proof. There are no randomised clinical trials at the moment to show the effectiveness of screening programmes for prevalent type 2 diabetes in decreasing diabetes-related mortality and morbidity. It is thus unknown whether the additional years of treatment that might be received by individuals diagnosed through screening would result in clinically important improvements in diabetes-related outcomes. The recent results from the ADDITION-Europe study showed that intensive management of screen-detected patients with type 2 diabetes did not induce reductions in the frequency of microvascular events after 5 years, compared with routine care (Sandbæk *et al.*, 2014).

However, if we aim to identify individuals with high risk of getting type 2 diabetes in the future instead of focusing on patients with prevalent, undiagnosed diabetes, the picture is different. We have very solid evidence from clinical trials in many countries from different parts of the world that type 2 diabetes is preventable by relatively simple lifestyle modifications among high-risk individuals (Yamaoka and Tango, 2005; Gillies *et al.*, 2007). The latest results from the Finnish Diabetes Prevention Study (DPS), a landmark study in the field of primary prevention of type 2 diabetes, showed that diabetes can be postponed by an average of 5 years among middle-aged, overweight men and women with IGT at the baseline (Lindström *et al.*, 2013). Therefore, it is justified to focus on identifying and intervening in high-risk people before their condition worsens to overt diabetes.

There are two general approaches to detect future type 2 diabetes risk. One is to measure blood glucose levels to identify the so-called pre-diabetes (usually IGT or impaired fasting glucose IFG). The other approach is to use demographic and clinical characteristics and possibly available results from earlier, routine blood tests, to determine the future likelihood of incident type 2 diabetes, but without measuring the (present) glucose concentrations. Measuring either fasting or post-load or postprandial blood glucose concentration is an invasive procedure, in large scale costly, and time consuming. Blood glucose concentration, as a whole, has a large random variation, and only gives information on the subject's current glycaemic status.

III. EXAMPLE OF A NON-INVASIVE SCREENING TOOL FOR INCIDENT TYPE 2 DIABETES: THE FINDRISC

There are several tools available to identify people at increased risk of incident type 2 diabetes (Abbasi *et al.*, 2012). One of the commonly used is the Finnish Diabetes Risk Score FINDRISC (Lindström and Tuomilehto, 2003). With

eight simple questions (age, BMI, waist circumference, family history of diabetes, anti-hypertensive medication use, consumption of fruit and vegetables, physical activity, history of high blood glucose), a relatively good estimate of 10-year diabetes risk can be achieved. The FINDRISC was originally designed for use by lay people without medical equipment or laboratory testing. Furthermore, the aim was to disseminate information about type 2 diabetes risk factors. The FINDRISC has been validated for use, as such or after adaptations, in several countries (Bergmann *et al.*, 2007; Alssema *et al.*, 2008; Franciosi *et al.*, 2005; Janghorbani *et al.*, 2013; Ku and Kegels, 2013; Costa *et al.*, 2013; Zhang *et al.*, 2014).

The FINDRISC is unique in that it focuses on predicting future diabetes with several factors that are fast and easy to measure with non-invasive methods, known to be associated with the risk of type 2 diabetes. It is easily comprehensible, and directs a person's attention to the modifiable risk factors of diabetes. Interpretation of the individual's diabetes risk is easy and can be expressed as a probability in a relatively accurate way. People with a low FINDRISC value are unlikely to develop type 2 diabetes. Thus, these people can be excluded from further medical procedures without causing a major problem of false negatives. Given the high prevalence of unrecognised type 2 diabetes, glucose testing to diagnose prevalent diabetes among the subjects with high FINDRISC value is justified, but people with high risk scores can be assumed to benefit from lifestyle change regardless of their current glycaemic status. Using the FINDRISC can drastically reduce the number of invasive tests required at the screening phase.

Even though the FINDRISC was designed to predict future diabetes risk, it has proven to be a reasonably reliable method also in identifying previously unrecognised diabetes in a random population sample of 2966 men and women aged 45-74 (Saaristo *et al.*, 2005). Furthermore, FINDRISC was strongly associated with the presence of cardiovascular risk factors and the metabolic syndrome. Interestingly, the risk score has been shown also to be a reasonably good predictor of coronary heart disease, stroke and total mortality (Silventoinen *et al.*, 2005). This is even stronger proof indicating that lifestyle interventions for subjects with high FINDRISC are warranted. Importantly, when the FINDRISC form was applied in the DPS, it seemed to predict diabetes incidence in the control group, but no association was seen among the intervention group participants (Lindström *et al.*, 2008). This finding clearly suggests that once high-risk individuals have been identified with the FINDRISC and offered appropriate lifestyle counselling, type 2 diabetes can be prevented or at least postponed.

Psychological side effects of screening have been an issue of concern. Both true and false positive screening test result may cause anxiety. If the positive

screening test is confirmed with a diagnostic test, there may be a decline in perceived health status; on the other hand, a false negative screening test may lead to false reassurance and worsening of the condition (Adriaanse and Snoek, 2006). However, it seems that screening for diabetes does not in fact induce anxiety (Skinner *et al.*, 2005). According to the authors, this may be explained by the fact that the general public do not perceive (type 2) diabetes as a particularly serious condition.

IV. PRACTICAL IMPLICATIONS

One of the advantages of using the FINDRISC form in screening is that, in addition to identifying high-risk individuals, it also disseminates information about the modifiable risk factors for type 2 diabetes. The FINDRISC can be incorporated, for example, into health care check-ups, and can also be distributed in pharmacies, clinic waiting rooms, fairs, newspapers, the internet etc. and thus has the possibility of reaching those individuals who normally do not have regular contact with health care professionals. The prerequisite is, naturally, that appropriate counselling, further testing, if necessary, and treatment are organised. Most of the clinical and implementation trials to prevent type 2 diabetes have utilised the “traditional” lifestyle intervention modes such as individual and group counselling (Steyn *et al.*, 2009; Lindström *et al.*, 2010). However, promising new findings suggest that using internet and mobile technology to support lifestyle change can be as effective as traditional counselling, with significantly lower costs and workload to the health care system (Ramachandran *et al.*, 2013).

V. CONCLUSIONS

The rapidly increasing number of patients with type 2 diabetes, the severity of the disease, its multiple and severe complications, and its increasing socio-economic costs stress the importance of preventive actions (Anonymous, 2014). Population-level activities advocating and facilitating a healthy diet, an active lifestyle and a healthy body weight are of utmost importance, starting from childhood and adolescence and continuing throughout the life course. In addition to the population approach on prevention, we need a high-risk approach. The evidence about the benefits of early identification of type 2 diabetes is still controversial and it is questionable whether we should invest in programmes to screen for prevalent, unknown diabetes (International Diabetes Federation, 2012). However, there is firm evidence that type 2 diabetes is preventable by lifestyle interventions, with up to 50% reduction in diabetes incidence among high-

risk individuals (Tuomilehto et al., 2001). The recent results from Finland have shown that diabetes can be postponed by an average of 5 years even in people who already have impaired glucose regulation (Lindström et al., 2013). This could have an important public health and cost reducing impact, as population ageing is one of the most important drivers for the increasing number of people with diabetes, and this could be counteracted by postponing the disease to later in life. Therefore, screening programmes are warranted, but only if they aim for identifying individuals with high risk of getting type 2 diabetes in the future and include intervention programmes for those with established high risk. During this kind of screening program also new, unknown diabetes cases will be identified and must naturally be directed to treatment, even though there is no definite proof about the benefits of early identification.

Since type 2 diabetes is a heterogeneous and multifactorial, preventive measures must be based on modifying several risk factors simultaneously. Otherwise, the potential for prevention remains incomplete and insufficient.

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PART III

Integrated care

INTEGRATING CARE FOR OLDER PEOPLE WITH COMPLEX MEDICAL PROBLEMS

Nick GOODWIN

I. INTRODUCTION

Integrated care for people with complex chronic illness is a global challenge. Driven by broad shifts in demographics and disease status, age-related chronic illness (both physical and mental) accounts for the largest share of health care budgets internationally – approximately 75 to 80 per cent (Nolte and McKee, 2008). Between 2010 and 2030, the number of people aged 65 or over in OECD countries is expected to rise from 15 to 22 per cent (OECD, 2009). Put another way, a woman aged 65 in 2009 is now expected to live another 21 years – a 40 per cent increase compared with 50 years ago (OECD, 2011).

This longevity is a cause for celebration, but it also brings with it new challenges in terms of the provision of care. These trends have simultaneously seen demand grow for health care services to treat chronic medical and mental health conditions, but there has also been an associated increase in the needs of people requiring support with everyday activities such as dressing, bathing and preparing food. However, for people living with such complex health and social care needs, care is often poorly coordinated. Fragmentations are endemic in the way care is organised, funded and delivered, exacerbated by the increasingly specialist roles of care professionals and in the different jurisdictions of a range of service providers. As a result, the experience of patients and carers with complex needs is often poor and their care outcomes are sub-optimal. Without better care coordination around people's needs, all aspects of a care system's performance can suffer since the potential for cost-effectiveness diminishes (Kodner and Spreeuwenberg, 2002).

This chapter provides an understanding of what is meant by integrated care and the problems that integrated care seeks to address when coordinating care for people with complex and long-term medical problems. It examines the potential of integrated care to meet *Triple Aim* goals, illustrated through several international case examples. The chapter then summarises the latest evidence for the effective delivery of integrated care to older people in practice and concludes with an examination of seven interrelated strategies that are required to make a success of integrated care in practice.

II. INTEGRATED CARE

1. Understanding integrated care

Integrated care is a concept that is widely used in different health systems across the world, but there is no universally accepted common definition for integrated care. This reflects the polymorphous nature of a concept that has been applied from several disciplinary and professional perspectives and is associated with diverse objectives (Nolte and McKee, 2008). Yet, in many ways, integrated care is a simple concept: to integrate (i.e. combining parts so that they work together to form a whole) and to care (i.e. providing treatment and assistance to people in need). Hence, integrated care results when the former (integration) is required to optimise the delivery of the latter (care) and is therefore particularly important where fragmentations in care delivery have led to a negative impact on care experiences, outcomes and costs.

Implicit in all definitions of integration is that care should be centred upon, and organised around, the needs of services users and the communities to which they belong (Shaw *et al.*, 2011). Ensuring that integrated care programmes and strategies are held accountable for how they positively influence people's experiences and outcomes is important since it helps to bring together potentially conflicting views of different stakeholders into a single narrative that provides both a compelling logic for the approach and a basis, therefore, for how success should be judged (Ham and Walsh, 2013).

The reasoning for why a person-led understanding of integrated care is required can be best explained when one considers the current complexity of care that many service users experience when navigating their way through fragmented care systems. This is a particular concern amongst the growing numbers of older people with complex care needs where it has become difficult to simultaneously manage their multiple chronic conditions alongside their physical and mental health needs. The evidence shows how the lack of good care coordination to such people, combined with structural and professional fragmentation in the way care is organised, have prevented the adoption of solutions that might help to prevent deterioration in health status and/or support a better quality of life (Øvretveit, 2011). Indeed, the lack of good care coordination leads to inequities since it disproportionately affect those most in need of it – the poor, the vulnerable and people from ethnic minority backgrounds (Øvretveit, 2011).

2. Integrated care and the *Triple Aim*

For people with complex care needs, a number of key problems are associated with service fragmentation, including:

- lack of ownership of the person's problem from care providers driven by silo-based working and separate professional and organisational systems;
- lack of involvement and engagement with patients and service users in supporting them to make effective choices about their care and treatment options or enabling them to live better with their conditions through supported self-care;
- poor communication between professionals and providers, exacerbated by the inability to share and transfer data and embedded cultural behaviours;
- the resultant simultaneous duplication of care (e.g. repeated tests) and gaps in care (e.g. as appointments are missed or information and follow-up is not applied due to poor sequencing of care);
- a poor and disabling experience for service users, poor health outcomes and system inefficiencies (e.g. in terms of unnecessary hospitalisations).

The underlying hypothesis of integrated care is that the application of the approach should be able to reverse these outcomes from service fragmentation and therefore help to meet the *Triple Aim* goals in care systems, namely:

- improved experiences to service users, carers and the community;
- improved health to people and populations; and
- greater system efficiency, both functional and technical (Institute for Healthcare Improvement, 2013).

Yet, the successful adoption of integrated care in practice has proven to be a significant challenge as it has implied transformational change from systems centred around hospital-based care to those based in the community. It has also implied the development of new partnerships between health and social care

and, in many cases, the involvement of the voluntary sector and community-based groups. Hence, integrated care provides a significant challenge to professional groups, care organisations and government departments to undertake inter-sectoral collaboration. This has proven to be a difficult proposition. Whilst strategies for care coordination have been developed in many countries, the evidence suggests that not all have achieved their objectives and the failure rate amongst them has been high (Curry and Ham, 2010). In particular, whilst there is good knowledge about the building blocks of what care should look like to people with complex needs, there is a general lack of knowledge about how best to bring together and apply integrated care in practice (Bodenheimer 2008).

III. INTEGRATED CARE TO OLDER PEOPLE AND THOSE WITH COMPLEX NEEDS

There is good evidence to suggest that comprehensive, population-based approaches to integrated care that seek to pro-actively coordinate services around the needs of people with complex needs can lead to a better quality service and can support and empower older people to live more independently and enjoy a better quality of life (Devers and Berenson, 2009). A recent non-systematic review of the evidence suggests that successful approaches to care coordination contain a range of key characteristics (see Table 1). The nature of this evidence suggests that two key strategic approaches are required: first, the ability of policy-makers and governments to provide a sustained and enabling platform through which to support integrated care initiatives (for example, through reforms to funding and governance mechanisms or investment in innovation programmes); and second, a drive to deliver new forms of coordinated care around the needs of service users at a clinical and service level. However, as Table 1 illustrates, there appear to be a range of tools and approaches that might be deployed in care coordination with evidence to suggest that multi-component approaches have potentially more success in improving the outcomes of care coordination to people as opposed to single or more limited sets of strategies (Powell-Davies *et al.*, 2006).

Despite such evidence, there remains a lack of understanding of “how to” deliver better care coordination in practice to older people with complex needs (Curry and Ham, 2010). In this section, two recent research studies conducted by the author are reviewed that have sought to answer this question: first, an assessment of five UK-based case examples of care coordination (Goodwin *et al.*, 2013); and second, an international comparison of seven case studies of integrated care to people with complex needs (Goodwin *et al.*, 2014).

TABLE 1

CHARACTERISTICS OF SUCCESSFUL APPROACHES TO CARE CO-ORDINATION

System Level	Universal coverage or an enrolled population with care free at point of use. Primary/community care-led. Emphasis on chronic and long-term care. Emphasis on population health management. Alignment of regulatory frameworks with goals of integrated care. Funding/payment flexibilities to promote integrated care. Workforce educated and skilled in chronic care, teamwork (joint working) and care co-ordination.
Organisational Level	Strong leadership (clinical and managerial). Common values and a shared mission. Aligned financial and governance structures. Integrated electronic health records. Responsibility for a defined population or service. A focus on continuous quality measurement and improvement.
Clinical and Professional Integration	Population management. Case finding and use of risk stratification. Standardised diagnostic and eligibility criteria. Comprehensive joint assessment. Joint care planning. Holistic focus, not disease based. Single or shared clinical records. Decision support tools such as care guidelines and protocols. Technologies that support continuous and remote patient monitoring.
Service Integration	Assisted living/care support in the home. Single point of entry. Care co-ordination and care co-ordinators. Case management. Medications management. Single point of entry. Multi-disciplinary teamwork. Inter-professional networks. Shared accountability for care. Co-location of services. Effective discharge arrangements and management of care transitions. Supported self-care.

Source: Goodwin *et al.*, 2013, p.5.

1. Care coordination to people with complex and long-term chronic conditions in the UK

Research undertaken by The King's Fund in 2012-13 carried out in-depth investigations of five UK-based programmes of care coordination for people with complex needs. Each of the five sites were selected through a competitive process of selection based on whether they had been successful in moving towards the *Triple Aim* challenge of improved care experiences, better care outcomes and more cost-effective service delivery. Box 1 provides an overview of the characteristics of the five case sites.

Text Box 1:

FIVE UK-BASED CASE EXAMPLES OF COORDINATED CARE TO PEOPLE WITH COMPLEX MEDICAL PROBLEMS

Midhurst Macmillan Community Specialist Palliative Care Service (England)

The Midhurst Macmillan service is a community-based, consultant-led, specialist palliative care programme in West Sussex, England, which covers approximately 150,000 people in a largely rural area across three counties. The service enables patients with complex needs who are nearing the end of their lives to be cared for at home, and allows them to die in the place of their choosing. The service is run by a multidisciplinary team of nurses and palliative care consultants, occupational therapists and physiotherapists, as well as a large group of volunteers. Six staff members – all clinical nurse specialists – act as care coordinators for patients (Thiel *et al.*, 2013a).

Oxleas Advanced Dementia Service (England)

The Oxleas Advanced Dementia Service provides palliative care and support to enable people with advanced dementia to be cared for at home until their death. Eligible patients must have a diagnosis of moderate to severe advanced dementia, with a range of complex mental and physical co-morbidities requiring social care input. A carer (usually a family member) must also be able and willing to care for them at home. Patients tend to be in the last year of their lives, with an average age of 75. The service is led by an old age psychiatrist, with care coordination provided by an advanced practice nurse, community psychiatric nurse or a community matron who specialises in neurology, alongside a dementia social worker. The team has a specific focus on supporting carers to provide palliative care; it works closely with other care professionals, including occupational therapists, physiotherapists, community mental health teams and GPs (Sonola *et al.*, 2013a).

Text Box 1: (continued)

FIVE UK-BASED CASE EXAMPLES OF COORDINATED CARE TO PEOPLE WITH COMPLEX MEDICAL PROBLEMS

The Sandwell Esteem Team (England)

The Sandwell Esteem team, based in the West Midlands, is a holistic primary and community care-based approach designed to improve people's social, mental and physical health and wellbeing. The team provides care coordination for patients with minor to moderate mental health problems, co-morbidities and complex social needs in a community characterised by high levels of poverty and ill health, both physical and mental. The key aim is to prevent deterioration and admission to secondary care services. The team aims to empower patients to take control of their own lives by offering guided therapies and tools for self-help, as well as helping patients address their social problems by referring them to social and voluntary sector services such as debt advice agencies, abuse counselling services or housing agencies (Thiel *et al.*, 2013c).

Community virtual wards in south Devon and Torbay (England)

The community virtual wards based in GP practices in South Devon and Torbay use a predictive risk model to identify patients at risk of admission to hospital, and proactively manage them through community-based multidisciplinary teams attended by GPs, community and mental health staff, social workers and voluntary sector representatives. The multidisciplinary teams also work with emergency and out-of-hours services to prevent unnecessary admissions to hospital. Coordination with the secondary sector and discharge liaison teams seeks to ensure that patients who are admitted to hospital can be discharged quickly back to the community (Sonola *et al.*, 2013b).

Community resource teams in Pembrokeshire (Wales)

Multidisciplinary community resource teams coordinate care for people with long-term illnesses, co-morbidities and frailty. The aim is to enable patients to remain in their homes for as long as possible and to avoid unnecessary hospital admissions. The teams consist of community health care staff, social workers and voluntary sector representatives. There is also input from GPs and specialist nurses. During weekly meetings, team members discuss patients they deem to be at high risk of hospital admission, and a care plan is developed to reduce this risk and improve the patients' health and wellbeing (Thiel *et al.*, 2013b).

Source: Goodwin *et al.*, 2013: p. 7-8.

Despite significant differences in their models of organisation and funding, common elements in the design of the five case sites include a focus on the holistic needs of services users and working through ways in which users could be better supported to manage their complex needs better and so live more independently and with an enhanced quality of life. Hence, rather than focusing on integrated care as a cost-containment mechanism, key measurable objectives were focused on measures such as improving mood and mental health status; enabling greater functional independence so people can be supported to live (and die) at home; and focusing on the role of family and carers to help reduce stress and strengthening capabilities to develop supported self-care. Avoiding and/or reducing hospitalisations and nursing home placements were also explicit strategies. However, making financial savings was not a primary concern (the programmes could only demonstrate a marginal impact on costs) so it appears that care coordination was taken forward primarily as a quality improvement strategy. However, the inability to demonstrate cost-effectiveness was reported as a weakness given the wider financial squeeze on public resources and the generally held views in integrated care policies across Europe that look to integrated care as a means of cost-containment.

2. Integrated care for older people with complex needs: A seven-country analysis

In 2014, a report funded by the Commonwealth Fund was published by The King's Fund, UK, and the University of Toronto, Canada which examined a structured cross-case synthesis of seven integrated care programs drawn from Australia, Canada, the Netherlands, New Zealand, Sweden, the United Kingdom and the United States (Goodwin *et al.*, 2014). The goal of the research was to examine the different lessons for policy-makers and service providers to enable the better design, implementation and spread of successful integrated care models towards people with complex care needs. A summary of the seven case studies is provided in Box 2.

As Goodwin *et al.* (2014) summarise in their comparison of these seven international case studies, there appears to be “no one model” for integrating care. Rather, the research uncovered very different types of integration across the seven programs, ranging from “fully-integrated” health and social care organisations to approaches that have instead sought to build alliances and networks between health care professionals and providers to better coordinate care, often based on contractual relationships between different partners in care. They also found variations in the extent to which approaches sought to integrate “horizontally” (i.e. between partners working at a community level) and “vertically” (i.e. in the care pathways and transitions between primary and

Text Box 2:

SEVEN INTERNATIONAL CASE EXAMPLES OF INTEGRATED CARE TO OLDER PEOPLE
AND THOSE WITH COMPLEX MEDICAL PROBLEMS*Case 1: Health One Mount Druitt, Sydney, Australia*

HealthOne Mount Druitt provides a hub-and-spoke model of care that operates around a community health center in a socially disadvantaged area of Western Sydney. The model emphasizes shared care planning to improve coordination of care for older people with complex health needs, reduce unnecessary hospitalizations and ensure appropriate referrals to community and specialist health services. General practice liaison nurses organize multidisciplinary case conferences and coordinate care between various providers involved in the care of the patient.

Case 2: Te Whiringa Ora (TWO) program in Eastern Bay of Plenty, New Zealand

TWO is a collaboration between a community care organization and three newly merged physician practices. The program began with a focus on chronic respiratory disease and has expanded to include any chronic disease patient with high health care utilization. A goal-based approach to care is undertaken driven by outcomes for health and wellbeing that are set by patient's themselves. The TWO program includes assessment, care coordination, telephone support, and telemedicine monitoring as a tool for self-management education. These services are delivered by paired nurse and community-based care coordinators.

Case 3: Geriant, Noord-Holland province, the Netherlands

Geriant offers people diagnosed with dementia 24/7 community-based service from teams that include case managers, social geriatricians, psychiatrists, clinical psychologists, dementia consultants and specialized home care nurses. Case managers act as the focal point for clients and their informal caregivers and coordinate services from the team and other network partners, including GPs, hospitals, and home care and welfare organizations. Clients have access to a 16-bed short-stay clinic if more intensive treatment or observation is needed.

Case 4: Torbay and Southern Devon Health and Care Trust, the United Kingdom

Torbay and Southern Devon Health and Care Trust (known simply as Torbay) was created to commission (purchase) and provide health and social care within a single organization. Care is provided by multi-disciplinary health and social care teams with care coordinators that work in geographical 'zones' aligned to general practices to provide a range of services that meets the needs of older people after discharge from hospital.

Text Box 2: (continued)

SEVEN INTERNATIONAL CASE EXAMPLES OF INTEGRATED CARE TO OLDER PEOPLE
AND THOSE WITH COMPLEX MEDICAL PROBLEMS

More recently, pro-active case management of at-risk older people using predictive risk tools has provided an added capability to intervene before hospitalizations occur. These teams also provide ongoing care and support in the home environment.

Case 5: The Norrtälje Model, Sweden

Stockholm County Council and the Norrtälje Local Authority formed a joint governing committee to be responsible for health and social care services. This committee owns and directs a public company that is responsible for purchasing and delivering care. The Norrtälje model focuses on health promotion for the population, with an emphasis on using care managers and supporting better transitions in and out of the hospital.

Case 6: The Massachusetts General Care Management Program (CMP), Boston, USA

The CMP is focused on high-cost patients with many hospitalizations and multiple chronic conditions who are offered care that is integrated by a case manager embedded in a primary care practice. Practice-based case managers have intensive, one-on-one relationships with their patients through in-person interactions at the physician's office or when hospitalized, periodic telephone calls (at least once every 4-6 months), and home visits as needed.

Case 7: The Program of Research to Integrate the Services for the Maintenance of Autonomy (PRISMA) Quebec, Canada

PRISMA's objective is to implement an integrated service delivery network to improve the health, empowerment, and satisfaction of frail older people and to change health and social service utilization without increasing caregiver burden. Its key components are service coordination, single entry point, case management, a single functional assessment tool, individualised service plans, and a shared information system.

Source: Goodwin et al., 2014.

hospital care sectors). This variation in organisational approaches to integrated care is characteristic of the innovations in this field, and so this makes judgements on what might be considered the "best" approach to care problematic.

3. Key lessons in the design and delivery of integrated care

The evidence from these two studies suggests that achieving the *Triple Aim* is possible through integrated care, but that the process of achievement is complex, dynamic and long-term. Indeed, it appears that in no system of care does integrated care emerge naturally due to the legacy of pre-existing governance, funding, organisational and professional ways of working. Rather, integrated care requires strong and consistent leadership at a policy-level that enables innovations from the bottom-up to grow and be sustained (Bengoa, 2013). It is the latter ability of care systems to foster bottom-up change that appears to be most important since the most crucial aspect to success appears to be how care and services are organised at the clinical and service level around people's holistic needs. What also seems to be clear is that these initiatives at a local level need to be housed within integrated delivery systems of care. These delivery systems need to help align governance and financial incentives, supporting professional networking and new forms of organisational partnerships, leading to better integrated and coordinated services.

The evidence from the UK and abroad, therefore, points to the need to introduce elements of integration at every "level" of the system, from high-level policy-making at the macro-level through to personalised care coordination to patients and their families (Valentijn *et al.*, 2013). Achieving success through integrated care is therefore a complex and multi-dimensional task, although the evidence highlights a number of key lessons and markers for success in "how" integrated care to older people with complex needs to be designed and delivered (after Goodwin *et al.*, 2013 and Goodwin *et al.*, 2014):

System level

At a system level, there is good evidence to suggest that support for integrated care needs to be taken to a political level where the importance of better care for older people with complex needs is recognised. Specifically, policy-makers need to begin to bring together government departments into a guiding coalition to support this, perhaps aided by a compelling narrative for change and vision for the future of care services. Such an approach is needed in order to mitigate the natural cycle of reform to care systems that often results from political changes since integrated care requires a long-term strategy. Key elements of this strategy might require fundamental changes in the governance and funding of health and other care services that help to align incentives and system goals towards integrated care. This is important since success in integrated care requires the removal of barriers that can make it problematic for different organisations and professional groups to work together. For example, health and social care services imply different expectations, and have different funding

and governance mechanisms that can make it problematic to provide a joined-up service to an older person who might require support from both. Another key aspect of system reform is to avoid top-down restructuring of organisations and/or assume the agenda requires merging organisations into new entities. Instead, what is needed are systems that enable integration at the clinical and service level – a process that appears to be just as well achieved through care networks where providers have the ability to work together towards common goals.

Organisational level factors

The evidence suggests that there is no “one” organisational model to integrated care that is likely to work in all contexts and settings. Instead, the starting point should be aimed at understanding the clinical/service level process of care that might be part of an emergent strategy for change rather than imposing a model with a pre-determined design. For example, all of the 12 case studies reviewed above emerged from a sequence of iterations over a number of years before arriving at their current model of practice and each continues to evolve today. It therefore takes time for approaches to integrated care to develop and mature. Again, developing new organisations or focusing on structural solutions is not the main goal (although it may be helpful in certain circumstances).

Functional level factors

One of the common findings from the evidence is the importance of information, communication and technology (ICT) to support implementation and delivery, and specifically, shared electronic or medical records (e.g. Ham, 2010; Hofmarcher *et al.*, 2007; Øvretveit 2011). It is clear that ICT can be an important enabling mechanism, for example: to share information between professionals; support shared decision-making with patients; help to benchmark the quality of care services between professionals and organisations. Hence, ICT can provide the “glue” to bring people together into a robust system of information sharing and communication as well as the “grease” that enables the real-time flow of information to support effective decision-making on the ground.

However, the evidence also suggests that delivering good integrated care is primarily not about the technology, but about the effectiveness of communication and information-sharing. Hence, “old” technologies (such as the telephone) or the simple ability to discuss and debate care to people in multi-disciplinary team-meetings remain highly important. In the case study research reviewed above, most of the models of care were “high touch, low tech” – that is, they “worked” because of the close personal and face-to-face

contact between members of the care team and personalised care coordination with service users. This appears to be particularly important to older people with complex needs where the changing and unpredictable nature of their needs requires close and ongoing personal contact.

Professional level factors

A pre-requisite to good integrated care to older people is the extent to which professionals can effectively work together in multi-disciplinary teams or provider networks that, for example, bring together generalists and specialists and/or health and social care professionals. Within these teams, there appears to be a need for a “shared care” approach where accountability for outcomes and quality of service to patients and service users is a collaborative effort. This requires well-defined roles in how the teams operate, but a characteristic of better functioning teams is the subsidiarity of roles – the ability to take up the work of others and to work flexibly to meet client needs as and when they arise.

One of the curious characteristics of integrated care programmes to older people is that the role of the general practitioner (GP) is not as central to the process of care delivery as one might expect. This is an unusual finding as most studies of integrated care to people with chronic illness suggest that the more effective approaches have a GP or primary care physician at the centre of a team-based approach (e.g. Coleman *et al.*, 2009). In part, this anomaly appears to reflect the fact that the intensity and nature of support that older people need goes beyond what a traditional primary care practice is able to deliver. However, as Goodwin *et al.* (2014) suggest, GPs often operate as independent businesses and so find it difficult to integrate their business model into a wider system of care due to a combination of the limited financial resources and additional time requirements that GPs have in the face of existing and often intense workloads. In the UK-based case studies, particularly in the care model of Torbay, the fact that GP practices are paid directly by a national contract for a defined set of services to a specific registered population makes integrated care a problematic proposition (Sonola *et al.*, 2013b).

Service and personal level factors

At a clinical and service-level, a number of common elements appear to be necessary in the design of the care process, including the ability to undertake holistic care assessment, a single point of entry to care services, care coordination with named individuals, and shared care planning involving the patient and family in shared decision-making. Also important appear to be the availability of a well-connected provider network that can facilitate access to the necessary support, particularly for self-management.

Finally, the evidence suggests the importance that needs to be placed on personal continuity of care among care professionals, informal carers and patients that aims to support people to live well with their conditions and as independently as possible. From a patient's perspective, continuity of care and personal care coordination to meet specific needs is important and highly valued.

IV. CONCLUSIONS

The ability to integrate care to older people and those with complex and long-term conditions is therefore a complex task that requires action at various levels, from system-level to patient-level. There appear to be seven key strategies that facilitate the process:

- Population health management: the ability to have an in-depth understanding of the health needs of communities supported through data that can help to stratify individuals within populations according to risk (for example, of a hospital admission, as achieved in the Basque Country). Without the ability to match resources to need at a population-level, lack of awareness of care needs can lead to poorly targeted interventions and/or missed opportunities to support people in need of care.
- Primary and secondary care prevention: the ability to support people to live better with their conditions, for example through self-care support, and so remain independent and active for longer. The inability to support or engage people to live healthier lives means that care systems may fail to have any meaningful impact on the rising demand for care in institutional settings
- Personalised care coordination: failure to coordinate care that overcomes existing fragmentation in the way care services are provided means that care experiences and outcomes are likely to be sub-optimal.
- Effective information, communication and technology systems: without the ability of care professionals to communicate well with each other, and for people to interact effectively with care providers in a way that supports shared decision-making, it is impossible for integrated care to succeed. New technologies are important to establish electronic patient records and enable the real-time sharing of data for better patient care.

- Integrated delivery systems: care systems need to be responsive to people's needs, especially during times of crisis. The inability of provider networks to respond to the real-time needs of people means that care coordination efforts can be undermined.
- Normative integration: care systems work best where they are underpinned by a sense of common purpose and shared cultural values. Integrated care challenges the existing norms and values in how managers and professionals work, so attention to promoting shared values and commitment is a prerequisite to achieving change towards integrated care.
- Research and evaluation: the inability to create the evidence to judge or benchmark the impact of integrated care schemes is a common problem internationally which can have a negative impact on the long-term credibility of integrated care innovations. The ability to measure and monitor outcomes can support care systems to demonstrate performance and give impetus to improve quality of care.

What is important to understand from the evidence is that success in integrated care requires the *simultaneous* adoption of these strategies if integrated care programmes are to be deployed effectively and therefore potentially meet *Triple Aim* objectives.

In conclusion, building effective approaches that help to integrate care is a complex process and experience suggests that success and sustainability of programmes of integrated care are not guaranteed since they often operate "outside" normal approaches to care rather than as "core business". Without the full alignment of political, regulatory, organisational and professional support for integrated care then too much emphasis is placed on local leaders and innovators to make change happen.

If integrated care is truly to become a key strategy in realising *Triple Aim* goals in Spain then there is the need for regions to fundamentally re-evaluate their approaches to care design and delivery. The agenda implies both a complex and long-term process of transformational change requiring high-level political support and the trust and engagement of care professionals. Such a process is not easy to achieve, but early successes have been documented, for example, in the Basque Country in terms of the better management of chronic diseases (Bengoa, 2013).

In other parts of Spain, such as Aragon and Catalonia, commitment to integration that goes beyond the health sector to embrace social care and

other community-based services has become a key reform strategy. However, if the international evidence is anything to go by, care systems in Spain will need considerable patience and persistence in making integrated care work in practice. Transforming care systems towards integrated care is clearly a long-term process but the prize to be won is a more economically sustainable and higher quality system of care that may better meet the growing needs of Spain's population and especially for older people and for those with complex medical problems.

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PART IV

Planning and incentives

HEALTH SYSTEM GENETICS AND TENTATIVE APPRAISAL OF THEIR EFFECTIVENESS

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Natalia PASCUAL ARGENTÉ

I. INTRODUCTION

A good health system consists of much more than strictly objective comparisons. The two primary parameters –cost and effectiveness– contain elements that set aside any preconstructed universal considerations. Hence, public opportunity cost should cover both national and regional budget allocations and any publicly regulated private social spending (Esping-Andersen, 1990), given the compulsory nature of the taxation that funds the former and the inescapability of the payments involved in the latter. When appraising effectiveness, account should be taken of objective health outcomes that depend on elements outside the bounds of health systems, along with any utilitarian, subjective social variables accepted for inclusion in the respective indicators. Inter-system differences are huge (Paris *et al.*, 2010). The restricted access, waiting time and anxiety that thwart welfare or the trade-off between co-payments and relatively lower effectiveness certainly call conventional approaches to assessment into question.

One indication of this is the difficulty in making global evaluations of countries' health systems beyond their own boundaries or citizens' idiosyncrasies. Funding in connection with service accessibility and entitlement basis continues to be a prevalent item in conventional approaches: from the traditional characterisation of health systems as heirs to the Bismarck or Beveridge systems to the four models that have evolved from those two origins, i.e., direct payment, tax-based payment, social insurance and private insurance (Mossialos and Dixon, 2002). The present study aims to formulate a non-antagonistic, alternative classification conducive to a comprehensive analysis of the origins and evolution of national systems. Experience and a theoretical background afford a sound vantage point for observing systems and identifying their major strengths and weaknesses. In this study, Section II analyses systems and their transitions, while Section III addresses considerations affecting their identities outside of the chosen benchmark. Lastly, Section IV explores how the DNA of Spain's health system can be defined in light of the changes prompted by the economic crisis.

II. SYSTEM OBSERVATORY

This section explores the genetics of different systems based on how they meet their key obligations, including non-exhaustive descriptions of their *polymers* (networks), *fundamental molecules* (healthcare obligations), *cells* (health centres) and *proteins* (incentives and facilitators). The classification proposed below characterises systems by evolution, culture and ideology, distinguishing among their different features without considering any to be “superior” to any other.

1. Systems

The public sector functions most highly developed by countries when organising their health systems serve as the point of departure for the present analysis. Health systems are characterised hereunder as: (1) regulation-based systems that transfer responsibilities to third parties and maintain public insurance schemes only subsidiarily (for the elderly and the poor), such as in the U.S.; (2) systems in which national health services are just one more governmental service, such as the UK or Spain; or (3) systems based on social health insurance, typical of continental European models.

1.1. Regulated systems (RS)

In regulated systems, public responsibility is confined to making insurance compulsory. Under such arrangements, the public sector renders no services, whose cost and funding are deemed to constitute individual responsibilities. All citizens are required to be insured against possible health contingencies and may be fined for failing to do so. That is the extent of the “good Samaritan” approach, in which any other action is believed to induce moral hazard that would weaken enforcement of the rule. Although in this case employers may be required to provide insurance, the cost to the public treasury may not necessarily be negligible.

Public regulations may cover other aspects of the private delivery of services, such as professional qualifications, equipment certification or class action in the event of malpractice. When input regulation is very extensive (including needs planning, maximum input quotas, equipment authorisations, working conditions and price ceilings), one might be forgiven for wondering to what extent the limitations on service producer and provider independence detract from the efficiency pursued with such measures.

Moreover, compulsory insurance is not usually fully comprehensive. It may cover only a basic package of services or contingencies. Coverage under a single premium is not ensured, for freely priced supplementary benefits may be envisaged. Lastly, no global individual or collective insurance pool is necessarily established, although collective insurance is commonly found on the company scale. When made extensive to all citizens, service is provided and funded directly, normally for the medically indigent and sometimes the elderly. In such cases, the cost is not always fully covered by the insurance premium, which must be supplemented with co-payments made when healthcare is sought. The diversity of service providers and free choice are likewise co-essential to the system, although the latter is diluted if group decisions can overrule individual choice and where, for public information to become a collective good, individual choice is incentivised to adopt a better informed decision.

In these contexts, equity concerns are confined to some manner of discrimination in favour of the most efficient services with the lowest access cost. Other elements include coverage for communities qualifying for collective responsibility regimes (the elderly, war veterans, people with disabilities, the extremely poor) and the duty to provide emergency care in life-threatening situations. Even those cases do not always entail the deployment of public resources, however. Rather, private services financed by the public sector may be enlisted through the transfer of funds either to the service provider or directly to citizens to eliminate potential barriers to access. As a rule, the weaknesses of systems that attempt to prioritise individual responsibility for health lie in their consequences related to equity, use of resources and outcomes.

Moreover, in “good Samaritan”-based health systems, establishing limitations on healthcare delivery may generate “poverty traps”, i.e., discontinuities whereby age, a certain income threshold or a more or less subjective, more or less exogenous condition determines considerable differences between individuals in terms of their entitlement to collective rights. Reaching the age of 65 may not be easy in some health systems, but if attained, one is on solid ground; working in the above-ground economy to marginally supplement an income may entail forfeiting subsidised coverage for otherwise unaffordable services; living at a distance from hospital urgent care services may preclude access to vital emergency care. According to aggregate spending-outcomes data (Nolte and McKee, 2008), such systems may also be said to be less efficient, although as noted earlier that equation may be interpreted differently in countries with different cultures. Operational inefficiencies may also be observed in the form of duplication, induced demand, poor service integration and sequencing, scant continuity between primary and specialised care and high costs. Nonetheless, that does not mean that the system should be regarded as “worse”, particularly if it is politically legitimised by laws with broad social support.

1.2. Public provision and production systems (PBS)

In public provision systems, the responsibility for and funding and production of the entire health value chain are assumed by the public sector, including everything from planning and the establishment of the service portfolio to the purchase and delivery of service in the region in question. As in other government services, a number of public agencies adopt decisions for prioritising healthcare on the grounds of epidemiological determinants, management capacity, professional training, and budgetary, control and assessment arrangements. These tasks are performed by public officials in a hierarchic structure with regulated positions and working conditions and salaries determined outside their specific organisations.

System efficiency is based on the ability to integrate measures in a straightforward way through the implementation of guidelines and protocols published in orders and circulars. Pooled procurement (subject to limitations applicable to monopsonies) and uniformity (with scant choice, unified basic catalogue, treatment algorithms, inspection) are inherent in such systems, whose “deeds” (incentives, de facto management capacity) are generally challenged more intensely than their (political) “words”. Issues such as benefit prioritisation, service catalogues and planning for the most vulnerable communities’ health needs are not always addressed consistently, despite the strictly vertical organisation of such systems. The major shortcomings are departmental compartmentalisation, the lack of programme-based budgets and lobbying at the technically or politically weakest levels. Often, then, planning that should be based on population health objectives is poorly mirrored in information systems geared primarily to healthcare delivery, with *a posteriori* control systems that tend to identify differences in input costs only and funding that is based on separate rather than integrated units governed by more or less automatic price increases.

In such *publicified* approaches, equity is of cardinal importance, for it is often the justification for inefficiencies and licence for the narrowness of constraints (services covered, remuneration ceilings, waiting times), excused on the grounds of the scant use of funding outside taxation. Nothing is for free, however, and concerns around moral hazard and overuse can be parried with avoidable co-payments and both efficient and equitable rates. Even so, these are the systems that consume least public resources and deliver the best objective health outcomes (Nolte and McKee, 2008). Nonetheless, as noted above, this is not the sole possible criterion for evaluating health systems, for in some societies rationing and the absence of free choice are unacceptable.

1.3. Public provision and private production systems (PVS)

In these systems, health services are subject to social insurance systems, which combine public regulation and provision with the involvement of for- or not-for-profit private professionals, centres, organisations and mutual and insurance companies. Such systems are the result of unifying providers with different approaches to service that existed prior to the creation of public networks.

Affiliation is compulsory and dues are mandatory through employer-mediated payments. The respective rights are not limited to continuity with a given employer, however, but as civil rights they remain in force throughout the entire life cycle. Over time, any link between the free choice of insurer from among the publicly approved institutions and job category and employer (a mere intermediary who contributes to and at times supplements funding) is completely severed. Public coverage is universal in these systems, with the public sector being subrogated to the activities not performed by intermediaries. Funding follows a capitation, population-based model, as befits an insurance system, and the information available on each individual is used to weigh funding by adjusting for predictable risks, irrespective of supply-side behaviour.

The health industry and its professionals, with their many and varied interests, play an essential role, on which inter-sectoral health policies not exclusively related to the health industry at times depend. Moral hazard is combatted with more widespread co-payments than in the preceding system. Its approach to efficiency, with an emphasis on community health, prospective funding, prevention, education, coordination and comparison of relative efficiency within integrated networks is satisfactory in this respect, for funding is not retrospective via reimbursement of specific costs.

This system's achilles heel in terms of equity lies in risk selection: the failure of adjustments to satisfactorily offset population risks, under- or over-shooting the target, may have highly adverse implications for the effective insurance pool. Be it said, however, that in addition to the aforementioned adjustments, reinsurance techniques and treatments for extreme cases outside basic funding are in place that enable the public regulator to deliver equitable healthcare.

2. System transitions

Despite the differences in the underlying nature of the systems described above, which form part of the national heritage (Bismarck, Beveridge, U.S. constitutional system), certain common traits can be identified in their evolution

(Kutzin, 2011). The following analysis describes how systems evolve from traditional fundamentals in a process soundly substantiated by the literature on health economics, which in turn serves as inspiration for evidence-based health policy.

Traditionally, such systems were funded more retrospectively than prospectively, in the form of reimbursements in RS, input-based payments in PBS and output-based payments in PVS. Today, they are all transitioning to outcomes-based payments: by patient (in RS), by population (in PBS) and by affiliations covered (in PVS).

Regulation, procedures and care delivery would no longer revolve around quality standards (professionals, manufacturers, safety, clinical efficacy and placebo trial effectiveness), but focus rather on clinical effectiveness judged against comparable treatments: in RS and PVS, weighing value for money, albeit with different degrees of formalisation, and in PBS based on strict cost-effectiveness, more or less explicitly assigning that ratio a monetary social value.

To determine the price of services rendered, the shift in general is moving from price per volume of purchases to price of health benefit per unit of input. Here, the trend differs with respect to the scope of this ratio: inputs only (RS), outputs only (PVS) or outcomes (PBS).

All of this must be supported by information systems that have not traditionally measured the estimated health outcomes and which are therefore unable to implement relative performance-based purchasing or management. Today's systems seek information on integrated operation and cooperative and planned healthcare delivery, budgeted in keeping with the population's needs and with universal access to and coverage of essential services. Inter-system differences lie in the definition of the latter and the treatment accorded to those excluded (scaled co-payments, tax deductibility of supplementary insurance).

III. DEFINITION OF IDENTITIES

The classification introduced in the preceding section should be understood as a series of distinctive traits that differentiate systems. Despite such classifications, however, the ideal that all countries appear to pursue is universal coverage (WHO, 2013). This section analyzes systems more fully, introducing two factors to be borne in mind when defining system identities: redistributive impact and the importance of social choice; and the contribution made by health economics research to decision-making to date.

1. Redistribution

Implicit in the analysis of systems' redistributive impact is the realisation that nothing is for free in economic relationships. Someone always wins and someone always pays, in price or time; in other words, rationing is always present. Irrespective of the choice of a DNA for a given system, the impact of distributing and redistributing earnings and benefits is not neutral. Taxes are not always a guarantee of equity nor co-payment of inequity. If an ailing financial system is restored to health with public funds, the burden is borne by the taxpayer; if it is through higher revenues from fees and other services, the user pays; and if it is with higher capital requirements, the shareholder foots the bill. Each group may logically be expected to want the others to pay.

Here is where social choice should be more effective. In the case of health benefits, the question cannot be whether the public at large is in favour of co-payments, because the rational preference is for completely free care. The question should be whether that is preferable to limiting benefits through a flexible service portfolio that changes in keeping with public budgetary circumstances, including only those services that are affordable and excluding those that are not affordable regardless of how effective: i.e., charging a one hundred per cent co-payment for those able to pay.

In the owner-taxpayer-user triangle, attention should focus on which agent has greater capacity to extract benefits to the detriment of the other two. Taxpayers are in the weakest position, for they are the ones least directly involved in the benefits. Burdening them with all the consequences of rising and ever more "corporativised" spending could well worsen social progressiveness substantially. Universal services are redistributive only because the wealthy, despite their entitlement to access, use them less than they use private services. Any measure that upsets that balance would be tantamount to "dying of success" for the public sector: less redistributive consumption, higher spending, and rising taxes rendered less progressive by dual taxation. Without co-payments, greater weight is given to progressive indirect taxes and taxes on wages which are more anti-social than taxes on capital earnings. The slogans and mantras that have become so popular today must, then, be analysed in depth, regardless of how just the underlying cause.

2. The knowledge frontier in health economics

The contributions made by academic research are also relevant to assigning identities to health systems. The lines of research pursued in health economics (Table 1) mirror the health system traits described above. Theoretical research,

in which the U.S. plays a clearly predominant role, has focused on insurance, moral hazard, costs, innovation and drugs. Analyses have become increasingly more sophisticated and less geared to cost-benefit or cost-effectiveness. The extrapolation of the findings has been found to be sensitive to system specifics. A renewed interest in public health externalities has also been observed. Macro-economic studies have tended to focus on added value in health and economic growth and micro-economic studies on clinical practice and incentives.

Empirical research has moved toward a greater wealth of data, before/after regressions and the use of instrumental variables to mitigate endogeneity issues, although the difficulties in evaluating the direction of causality have not been surmounted. Finally, research on public policy has focused on the interaction between public and private insurance, the impact of medical interventions on economic development, the strategic design of organisations, and risk selection and adverse selection in insurance. Analyses of financial sustainability, so necessary for confronting the economic shocks that affect health systems, appear to be missing. Nor are there many studies on healthcare supply-side changes or their impact on redistribution, referred to above. Studies on optimal risk combination and analyses of the contribution of healthcare to the health of the community are also in short supply.

TABLE 1

LINES OF RESEARCH IN HEALTH ECONOMICS

Grossman's demand for health model extrapolated to the macro-economic scale by reconsidering the neo-classical production function.

QALYs: micro-economic psychometric and time series analysis to measure the value for money of medical interventions on the macro-economic scale (considering other factors in addition to healthcare).

Analysis of demand sensitivity to uncertainty (insurance) and incentives (prices, co-payments, taxes, waiting times).

Supply-induced demand: professional incentives, team production, productivity, performance-based pay, variations in clinical practice.

Public intervention in health: prioritisation, debate between welfarists and non-welfarists, measurement of preferences (utilities) and willingness to pay, contributions of Bayesian probability to economic assessment.

Healthcare market: information theory, third-party payments, risk pool, risk adjustment.

Global system assessment: combination of guidelines characteristic of the public health tradition, World Bank, World Health Organization, European EquityAction and the analysis of impact on the global burden of disease.

System planning and monitoring: decentralisation, coordination of healthcare delivery, risk transfer to providers, simulation techniques for changing scenarios (Markov), needs estimation.

Source: Formulated by the authors.

IV. THE FUTURE OF THE SPANISH HEALTH SYSTEM

Among other areas, the Spanish health system is characterised by the pursuit of universal healthcare. Inasmuch as the economic crisis has questioned that premise, however, the following discussion aims to serve as a guide in appraising the changes underway in the country's health system. Universality of a public health service is generally understood to mean accessibility regardless of an individual's financial situation, targeting in particular the most socially fragile and underserved segments of the population. Universality, however, is symmetrical and entails cost-free access for high income groups as well. Therefore, if needs were distributed evenly and their coverage identical among segments, universality would generate proportional use. As the real world is more complex, the manner in which universality is ensured may be open to debate when, as in Spain, the distribution of needs and use are uneven (Van Doorslaer *et al.*, 2006) and social choice is sensitive to the results in terms of equity (Williams, 2001).

The genetics and evolution discussed above, understood as a general trend toward universal coverage, have recently undergone major setbacks in the wake of policies adopted in a number of countries in response to the economic crisis. Further to the report entitled *Health policy responses to the financial crisis in Europe* (Mladovsky *et al.*, 2012), the health policies pursued include budget cuts, narrowing of the service portfolio and population coverage, and measures geared to lowering the cost of healthcare (salaries, regulations on drugs, greater administrative centralisation). While Spain initially ranked high on international health outcome listings (Nolte and McKee, 2008), it has not been spared the turmoil stemming from the recent financial and economic crisis. Since the aforementioned report refers to decisions made in Europe through 2012, when the main measures were adopted in Spain, the following discussion analyses the changes introduced with the approval of Royal Decree Act 16/2012. The measures affecting the health system, not all of which have been fully implemented, are summarised in Table 2.

TABLE 2

MEASURES ADOPTED IN SPAIN TO CONSTRAIN AND RATIONALISE HEALTH SPENDING

Stricter access requirements (insured and beneficiary).

Changes in pharmaceutical benefits (co-payments, non-funding, active ingredient-based prescription).

Redefinition of service portfolio (basic, complementary, supplementary).

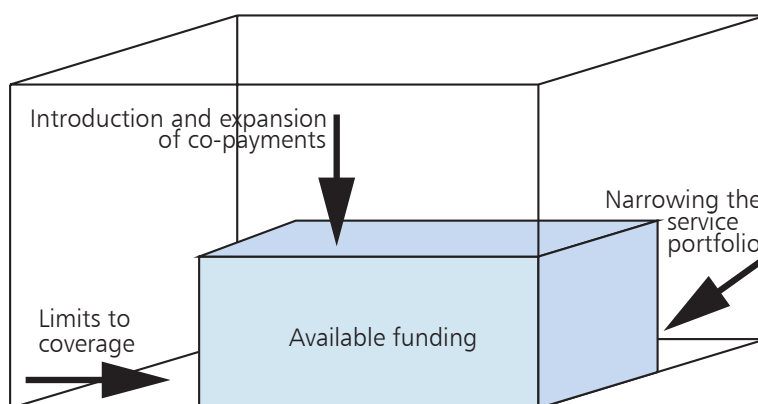
Cutbacks in health budget allocations.

Additional measures in autonomous regions (such as the "euro per prescription" charge).

Source: Formulated by the authors.

The effects of these measures can be classified in terms of the axes of the healthcare “box” adapted from Busse *et al.* (2007) and used by the WHO in its *World Health Report* (WHO, 2010 and 2013). Figure 1 shows the effects of the measures adopted in Spain, understood as an attempt to lower public health funding by reducing entitlement (exclusion of certain immigrant groups) and content (changes in the service portfolio, now organised into basic, complementary, supplementary and accessory services), while raising users’ participation in funding health service (co-payments).

FIGURE 1

MEASURES ADOPTED IN SPAIN LOWER PUBLIC HEALTH FUNDING

Source: Authors’ compilation adapted from Busse, R., Schreyögg, J., Gericke, C. Analysing changes in health financing arrangements in high-income countries. A comprehensive framework approach. Washington, DC. The World Bank, 2007.

The recent pattern of change may shed some light on the unclear genetic identity of the Spanish health system today (at least as regards intention). The outlook changed between 2003 when the welfare state was expanded to include a fourth pillar (dependency, whose “poorly” defined initial intentions have proven to be impossible to implement) and the recent institution of access criteria more characteristic of insurance-based schemes (PVS) than systems that pursue universal coverage (PBS).

Despite the potential public health and social integration problems that may stem from the change in criterion (AES, 2012), to which researchers should remain alert, that change does not appear to have had any profound

impact on the scope of coverage. The effects on pharmaceutical benefits must also be interpreted cautiously (see for instance Puig-Junoy *et al.*, 2013). While empirical evidence has yet to be forthcoming, the good news around the measures introduced is that there appears to be a greater willingness to introduce evidence-based policies. These include items such as non-funding for certain drugs that have proven to be insufficiently effective or instituting co-payments whose beneficial effects may include the reduction of unnecessary use. The intention underlying the definition of access requisites, i.e., to favour economic recovery, runs counter to international trends and recommendations (see WHO, 2013), which call for the universal coverage that appeared to have formed part of the Spanish health system's DNA. Nonetheless, as stressed in this section and on other occasions (López-Casasnovas, 2010), the three axes of the "box" determine public spending volumes and the dynamics of each vector should help shape a robust health system that responds to changing circumstances and adapts to new challenges and social needs. What is now pending is the course to be charted regarding insurance (citizenship-based universal coverage or re-anchoring on insured/beneficiary grounds?), the benefits portfolio (development of the intention announced in 2012 to work toward fully addressing the fourth health economics hurdle, perhaps creating a Spanish NICE?), policy prioritisation (use of cost-effectiveness analysis, to which only lip service has been given to date?) and equity (attention to explicit consideration weighing in social choice preferences in the efficiency-equity dilemma?).

The changes recently adopted in Spain would appear to at least pose doubts about the DNA to which its citizens have become accustomed. Nonetheless, the implications of future health policy decisions will be the element that will dispel uncertainties over whether Spain's DNA will continue to be traced back to Beveridge or whether it will mutate into a Bismarck tradition.

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PAYMENT SYSTEMS TO IMPROVE QUALITY, EFFICIENCY, AND CARE COORDINATION FOR CHRONICALLY ILL PATIENTS – A FRAMEWORK AND COUNTRY EXAMPLES¹

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Miriam BLÜMEL

I. INTRODUCTION

Care for people with chronic conditions is an issue of increasing importance in industrialized countries. Facing an ageing population, the burden of chronic diseases is constantly growing. However, today chronic diseases are no longer considered as a problem of the rich and elderly, since we know that within high-income countries, poor as well as young and middle-aged people are affected by chronic conditions. This has serious economic consequences that become apparent as expenditure on chronic care rises across countries.

Chronic diseases like cardiovascular disease, diabetes, asthma or chronic obstructive pulmonary disease (COPD) as well as cancer, HIV/AIDS and mental disorders all have in common that they need a long-term response, coordinated by different health professionals, especially if multiple disorders occur. Integrated care models respond to the fact that chronic diseases can rarely be treated in isolation. These models organize treatment so that providers better coordinate, and potentially integrate care – with the aim of providing higher quality of care while also being efficient. It remains a challenge, however, that the ways providers are paid in a way that incentivizes these objectives (Busse *et al.*, 2010; Nolte *et al.*, 2008).

This article will analyze the incentives of both traditional payment mechanisms as well as new methods to incentivize care coordination and quality of care, while also providing incentives for high(er) efficiency. To do so, we first develop an analytical framework through which we then describe and analyze current approaches in Australia, France, Germany, the Netherlands, England and the United States. Finally, we discuss their advantages and disadvantages with regard to improvement in quality, efficiency, and care coordination for chronically ill patients.

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II. TRADITIONAL PAYMENT MECHANISMS AND THEIR EXPECTED INCENTIVES

Provider payment mechanisms are key to the performance of any health system, and the demands placed on them are correspondingly high (Barnum *et al.*, 1995; Chaix-Couturier *et al.*, 2000; Robinson, 2001). Ideally, provider payment mechanisms should motivate actors within the health system to provide appropriate treatment and services, avoid incentives that would lead to risk selection, and encourage providers to achieve an optimal outcome of care—all while being technically efficient, administratively easy and contributing to an overall efficient health system through expenditure control.

Table 1 provides an overview of the most frequent types of provider payment mechanisms with their theoretical advantages and disadvantages with regard to the main objectives stated above—even though one may argue about the exact extent of the stated incentives.² On the one hand, fee-for-service (FFS) systems provide strong incentives for providers to be “productive” by treating the maximum number of patients and to do everything they can for them. However, they may also lead to inappropriate or even unnecessary levels of service (i.e. supplier induced demand), are administratively complex and do not support expenditure control. Technical efficiency is not present as providers get paid for each delivered service. On the other hand, the incentives for simple capitation payments are diametrically opposed to those of FFS. While being administratively simple and technically efficient, capitation does not reward providers who avoid risk selection for the benefit of patients with (multiple) chronic conditions. Instead, this type of payment is more likely to encourage providers to transfer patients to other providers, while possibly adhering to guidelines based on evidence-based medicine (if these reduce or avoid complications). Better risk-adjustment may weaken the disadvantage of not taking patient needs appropriately into account—but this may reverse the advantages with regard to administrative simplicity. The main methods of payment in ambulatory care, capitation and FFS, both have in common that they do not reward quality of outcomes.

For hospital services, global budgets and DRG based case payments are typical forms of payment. Global budgets based on historical costs are administratively simple and contribute to expenditure control, but run the risk of hospitals not being active while disregarding patient needs, appropriateness and quality of care, and therefore outcomes. DRG based case payment systems provide a stronger incentive to be efficient and productive—at least as far as

² The list of objectives is mostly based on Barnum, Kutzin & Saxenian (1995) and Robinson (2001). A literature review of the effects of payment mechanisms on provider behavior can be found in Chaix-Couturier *et al.* (2000) and Gosden *et al.* (2001).

TABLE 1

**BASIC FORMS OF PAYMENT MECHANISMS AND THEIR EXPECTED INCENTIVES
IN REGARD TO SELECTED OBJECTIVES**

Payment mechanism	Risk selection	Activity		Expenditure control	Technical efficiency	Quality of outcomes	Administrative simplicity
		Number of cases	Number of services/case				
Fee-for-service	+	+	++	--	0	0	--
Salary	0	-	-	+	0	0	++
Capitation	-- (if not risk-adjusted)	+	--	+	+	0	+
Global Budget	0	-	--	+	0	0	++
DRG based case payment	- (if insufficient consideration of severity and provided services)	++	--	0	+	- (if complication = comorbidity)	-

Notes: ++ / -- strong incentive in positive or negative direction; + / - moderate incentive in positive or negative direction, 0 no incentive in either direction (or dependent on specific details of implementation).

Sources: Authors' own compilation, based on Barnum *et al.* (1995), WHO (2000) and Geissler *et al.* (2011).

the number of cases is concerned – but, in their “pure” form (i.e., based on diagnosis only with weak or no consideration of complications and procedures), run the risk of equally disregarding patient needs and appropriateness, at least if not properly adjusted for severity and necessary treatment (Busse *et al.*, 2013). Finally, because the incentives provided by salaries are only moderate in nature, these payment mechanisms have neither strong advantages nor strong disadvantages.

To overcome the limitations of traditional payment systems, countries have developed and implemented a range of blended payment mechanisms in ambulatory care as well as in the inpatient sector. For example, in ambulatory care, capitation is often used to pay general practitioners for providing the basic services expected from each GP. These basic capitations may be supplemented by FFS for services which would be underprovided under capitation—or which require special expertise or technology.

In summary, three observations stand out: (1) basically all payment mechanisms provide conflicting incentives for “activity” and “expenditure control”, with a relative advantage by the newer developments capitation and DRG in terms of improving efficiency; (2) by itself, none provides positive

incentives for producing high quality outcomes, a worrisome observation especially for the chronically ill; and (3) none provides incentives for care coordination, either because they incentivize activity and therefore under-refer patients or they de-incentivize activity and therefore over-refer patients. Furthermore, traditional payment mechanisms are designed according to the different sectors of health care. Therefore, they signify a major obstacle for better care coordination across hospitals and ambulatory care.

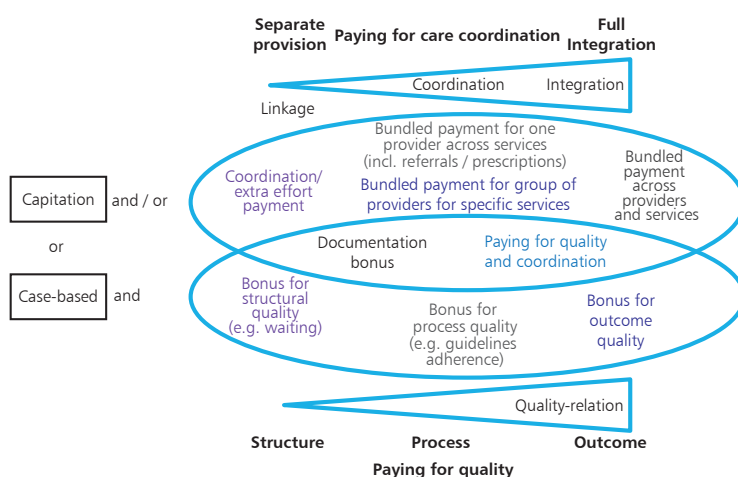
III. A FRAMEWORK FOR ANALYZING PAYING FOR CHRONICALLY ILL

All industrialized countries thus face the same challenge, i.e. to align their payment systems to incentivize and reward both a better quality of care as well as a better coordination and integration of care, without losing the efficiency gains experienced under capitation and case-based/ DRG payments. However, countries mainly choose – simplified – two different routes, namely either to incentivize quality or to incentivize care coordination (Figure 1).

To incentivize care coordination, countries give providers shared responsibility for their profits as they bundle payments (1) for one provider, (2) for one provider across services, (3) across providers for special services, or (4) across providers and services. Paying providers for integrated care mainly

FIGURE 1

PAYING FOR CARE COORDINATION AND QUALITY – A FRAMEWORK



Source: Own elaboration.

incentivizes efficiency within a provider network while disregarding the quality of care. To gain higher profit, providers could be encouraged to under-provide services or to select patients with good risks.

Incentivizing quality of care, on the other hand, usually does reward one provider (mostly the GP, but also hospitals, albeit less often for chronically ill) who/which is responsible for delivering high-quality outcomes concerning (1) structures, (2) processes or (3) outcomes of care. As we can see in Figure 1, although approaches for paying care coordination and for paying quality do exist, they only have a minor intersection. A payment mechanism that gives providers a financial incentive to engage in both care coordination and quality seems to be not yet fully developed.

IV. PAYMENT TO (PRIMARILY) INCENTIVIZE CARE COORDINATION

Research suggests that one of the major obstacles to better care for those with chronic disease is the lack of coordination in health care systems. Structured approaches such as Disease Management Programs (DMP) and integrated multi-disease care models tend to fall between different layers of increasingly differentiated health systems (Busse *et al.*, 2010).

As described in Section II, all traditional payment mechanisms used to remunerate care providers are insufficient regarding care coordination, especially for patients with chronic conditions. In response to the challenge posed by chronic diseases, numerous initiatives and models have emerged to enhance better coordination of services across the continuum of care required by people with chronic illnesses (which are, or are not, accompanied by appropriate financial incentives).

There are considerable variations in the approaches to chronic disease management that are being implemented in different health care settings (Nolte *et al.*, 2008).

Boon and colleagues (2004) identified seven types of provision with varying degrees of coordination. At one end of the continuum is “separate provision” and at the other end is “full integration of disciplines” for curative, rehabilitative and preventive services (Figure 1). Second on the non-coordination side of the continuum is “parallel practice”, whereby practitioners work independently and carry out services independently. “Consultative practice” is where information on patients is shared informally, case by case. In “coordinated practice” the exchange of data on patients is related to particular diseases, and therapies

are administered through a formal structure. Often a case coordinator will supervise the exchange of patient records. An advanced model of the former is the “multidisciplinary team”, which is more formalized, has more team members, and often clear team structures with sub-teams and team leaders. An “interdisciplinary team” is one in which group decisions are made, shared policies developed, and regular face-to-face meetings held. Finally, “integrative practice” is based on a shared vision and provides a “seamless continuum of decision-making and patient-centered care and support” (Boon *et al.*, 2004; Busse *et al.*, 2010).

It can be assumed that providers will be less involved in integrated care models unless financial incentives are given to them (Steuten *et al.*, 2002; Schiøtz, *et al.*, 2008). One of the major obstacles to the establishment of care coordination and long-term cooperative arrangements is the fragmentary funding of services and providers (Struijs *et al.*, 2010). Fragmented service provision is to some degree due to a lack of perceived shared responsibility (accountability) across different providers (Kilbourne *et al.*, 2010). Integrated care needs integrated payment, i.e. a bundled payment across services as well as across providers that encourages providers to share financial responsibility for the whole continuum of care. Thus, payment mechanisms have to be adapted in order to compensate participation in new schemes, such as multidisciplinary teams to treat chronic diseases (Glasgow *et al.*, 2008).

Models of integrated care differ in the level of coordination as well as in their payment level. To better analyze recent approaches, we identified four levels of payment integration:

First level: financial incentives for coordination or extra effort;

Second level: financial incentives for bundling across services (delivered by one provider);

Third level: financial incentives for bundling across providers (but restricted to a set of activities, e.g. only those related to a disease);

Fourth level: financial incentives for bundling across providers and services.

All of the considered countries in this paper have implemented interesting models in their health system to improve care coordination. However, they differ substantially in the level of financial incentives used to encourage providers not only to avoid risk selection, but to deliver appropriate care across services and other providers.

Country examples

As one part of a broader strategy to reform the fragmented primary health care system in *Australia*, the Australian Government Department of Health and Ageing (DoHA) introduced the Practice Incentives Program (PIP) in 1998 (Cashin and Chi, 2011). To elude the disadvantages of FFS payments – the traditional payment scheme for GPs in Australia – PIP moves toward a blended payment model, providing a portion of funding to general practices that was unrelated to the volume of FFS payments. Beyond incentive payments for the broader elements of quality practice (see Section V), PIP also includes direct incentives for specific chronic disease management activities performed by GPs for patients with chronic conditions. Three types of payment for disease management can be differentiated: (1) initial payments, e.g. patients are registered or signed on and provide their data for registers; (2) service incentives, e.g. payment for each completed cycle of care; and (3) service outcomes, e.g. payment for the achievement of a target of completion (Australian Institute for Primary Care, 2008). Although these types of payment are an approach to improve care coordination, they do not yet overcome the fragmentation of services and providers.

While *France* gives financial incentives for GPs to improve care of chronically ill in terms of structure and process quality (see CAPI in Section V), it also has implemented payment approaches aiming at the improvement of care coordination across health care providers. This is done by developing new practice structures in primary care which will give more emphasis to prevention and care coordination. For this purpose, the 2007 Social Security Financing Act scheduled a period of five years from January 2008 for experimentation with supplementary or substitutive remuneration schemes to fee for service in primary care. Group practices will choose among different remuneration packages for providing specific healthcare services (Lorenza *et al.*, 2010).

Finding an effective way of funding group practice such as Multidisciplinary Health Houses (MHH) has been a long pursued objective in France. MHH refer to group practice structures in which self-employed medical and paramedical health professionals are united on a single, dedicated site. These structures aim to improve the management of chronic diseases and the effectiveness of the care delivery by shifting the focus from curative care for acute conditions towards preventive services and care coordination. They also intend to improve accessibility (with longer opening hours), as well as efficient cooperation between professionals (in particular between general practitioners and nurses) and care supply.

In Germany, new provisions for integrated care were introduced as part of the SHI Reform Act in 2000. The aim of these provisions was to improve

cooperation between ambulatory physicians and hospitals on the basis of contracts between sickness funds and individual providers or groups of providers belonging to different sectors. Due to legal and financial barriers, only a few initiatives were established on the basis of these legal provisions. The Act to Reform the Risk Structure Compensation Scheme provided new incentives for trans-sectoral care in the context of disease management programs from 2002. With the SHI Modernization Act, in force from 2004, integrated care has been further strengthened and the rules of accountability have been clarified. The Act removed barriers to starting integrated care models which had been enacted when the integrated care was first introduced in 2000: Integrated care contracts no longer need to extend across ambulatory and inpatient sectors, but it is sufficient if different categories of providers within one sector are involved, for example, family physicians and ambulatory long-term care providers (Busse and Blümel, 2014).

As a financial incentive, between 2004 and 2008, sickness funds had to set aside 1% of the financial resources for ambulatory physicians and hospital care for integrated care contracts. These resources were only to be used for integrated care purposes in the respective region of the physicians' association and had to be paid back if not fully used. Thus, for five years, integrated care represented a separate sector for which financial resources had to be set aside.

The regional initiative "Healthy Kinzigtal" (*Gesundes Kinzigtal*), located in Southwest Germany, offers financial incentives for bundling across providers and services and therefore follows the idea of integrated care consequently (Hildebrandt et al., 2010). The system serving around half of the population of the region is run by a regional health management company (*Gesundes Kinzigtal GmbH*) which has contracts with two statutory health insurers. *Gesundes Kinzigtal GmbH* is a joint venture between the Hamburg-based health management company OptiMedis AG, which holds one-third of the capital, and the more-than-40-member-strong "*Medizinisches Qualitätsnetz—Ärzteinitiative Kinzigtal*" (Medical quality network—physicians' initiative Kinzigtal; MQNK), which holds two-thirds of the capital. The remuneration of the health care providers in *Kinzigtal* is based on a four-stage model: 1. regular payment through SHI, 2. additional fee-for-service items (e.g. health-check-up), 3. performance-based remuneration regarding to specific structural and quality characteristics, 4. distribution of the profit, calculated as difference between expected and actual expenditure between the sickness funds and *Gesundes Kinzigtal GmbH* and its members (Braun et al., 2009).

To surmount the fragmented funding structures that usually block multidisciplinary cooperation, *The Netherlands* drafted a comprehensive funding plan for diabetes care in 2007. On an experimental basis so-called "care

groups” have been created, which are legal entities that refer to the principal contracting organization on an integrated bundled payment contract, not to the team of health care providers that deliver the actual care. The care group is responsible for the organization of care and ensuring its delivery (Struijs *et al.*, 2010). The role in the provision of health care service can be structured in different ways: the care group may deliver the contracted care itself (1) or subcontract it to individual health care providers and agencies (2). A third possibility is a mixture of the two variants (3). The fees for bundled payment contracts and associated subcontracts are freely negotiable, which is expected to encourage efficient purchasing (Struijs *et al.*, 2010). The decision about the coverage of services within a payment bundle was made on national level. In 2010, the concept of bundled payments for care groups was approved for nationwide implementation for diabetes, COPD, and vascular risk management (Struijs and Baan, 2011).

The *United States’ “Patient Protection and Affordable Care Act”* of 2010 includes incentives for providers to move toward more integrated models of care. From 2012 on, the Centers for Medicare and Medicaid Services (CMS) will create a national voluntary program for the implementation of a new provider category: accountable care organizations (ACO). ACOs accept responsibility for the cost and quality of care delivered to a specific population of patients cared for by the groups’ physicians (Shortell *et al.*, 2010). “To be eligible, an ACO must have a mechanism for shared governance, and may include professionals in group practice arrangements, networks of individual practices of ACO professionals, hospitals employing ACO professionals, or partnerships or joint venture arrangements between hospitals and ACO professionals. The ACO must be willing to be accountable for the quality, cost, and overall care of Medicare FFS beneficiaries assigned to it for at least a three-year period, and have a formal legal structure to distribute shared savings” (Davis *et al.*, 2010).

As a model for the Medicare Shared Savings Program for ACO, the physician group practice (PGP) demonstration was initiated in 2005. It rewarded providers for coordinating and managing the overall health care needs of a non-enrolled Medicare patient population usually paid by FFS. It offered the CMS an opportunity to test whether a new financial incentive structure can improve service delivery and quality for Medicare patients, and ultimately prove cost-effectiveness (see Section V) (Trisolini *et al.*, 2005 into 2006).

While quality-related payment is well developed in *England* compared to other European countries, approaches aiming at care coordination as well as their payment are much less developed. “In 2008, the Department of Health set out proposals for integrated care pilots so that primary and community care clinicians could work with acute hospitals to deliver seamless care. In April 2009, the Department of Health launched a program of 16 integrated care

pilots designed to cross boundaries between primary, community, secondary and social care. Examples include GP-led service development of specialist intermediate care teams for patients with dementia, and various chronic disease management services, with teams including people from across the health care boundaries (e.g. hospital consultants, GPs, community health staff and social care staff)" (Boyle, 2011).

Table 2 gives an overview of the financial incentives used to improve care coordination according to the different levels of integration (not all of which have been discussed in depth).

<i>Financial incentives for coordination/ extra effort</i>	<i>Financial incentives for bundling across services</i>	<i>Financial incentives for bundling across providers</i>	<i>Financial incentives for bundling across providers and services</i>
"Year of care" payment for the complete package of chronic disease management (UK) or service incentives (AUS)	GP "fundholding" (UK) (cf. Dixon & Glennerster 1995)	1% of overall health budget available for integrated care → majority of integrated care (GER)	1% of overall health budget available for integrated care → population-based integrated care (<i>Kinzigtal</i> ; GER)
Per patient bonus for physicians for acting as gatekeepers for chronic patients and for setting care protocols or providing patient education (FR)		Integrated care groups (NL)	Shared savings for Accountable Care Groups (US)
Bonus for DMP recruitment and documentation (GER) or initial payments (AUS)		Bundled payment for acute-care episodes (US)	
Service outcome payments (AUS)		Payment for professional cooperation and diagnostic related bundled payment (FR)	
<i>Notes:</i> AUS = Australia; FR = France; GER = Germany; NL = Netherlands; UK = United Kingdom; US = United States. <i>Source:</i> Own elaboration.			

V. PAYMENT TO (PRIMARILY) INCENTIVIZE QUALITY

As described in Section II, the traditional payment mechanisms used to remunerate care providers are insufficient regarding the quality of care, especially for patients with chronic conditions.

The classic analytical framework for analyzing and assessing quality is Donabedian's model that bases on a three-component-approach: structure, process and outcome (Donabedian, 1988). Structure refers to prerequisites, such as the provider's function as a gatekeeper. Process describes how structure is put into practice, such as the provision of specific therapies for patients with chronic conditions. Outcome refers to results of processes, for instance, the measurable clinical outcomes after a specific therapy. Providers can be given financial incentives to improve these different components of quality.

With the broader intent of improving the quality of service provision, the traditional payment mechanisms have been amended by a new approach during the last decade. Pay-for-performance (P4P) gives physicians financial incentives to encourage pre-established targets for health care delivery. These targets can be assigned to the different components of quality. Although a trend towards this more quality-related payment can be found, P4P still has marginal influence in European countries, especially compared to the United States (at least in the hospital sector). However, while some countries use quality-related payments as an inherent part of the provider payment system, others are still experimenting with them in the pilot stage.

Country examples

Quality-related payment has only marginal influence in *Germany*. A financial incentive that takes into account the structural quality of care is a bonus physicians receive for patients enrolled in a Disease Management Program (DMP). Sickness funds pay the physician an annual lump-sum. In return, the physician provides patient trainings and is supposed to document patient data.

As part of the Social Security Finance Act, *France* introduced new payment schemes that aim to improve structural and process aspects of care quality. In 2009 the National Health Insurance Fund (NHIF) implemented a new category of individual GP contracting called "individual contracts for professional practice quality improvement" (CAPI) (Chevreul *et al.*, 2010). Contracted GPs agree on achieving specific structure and process targets in three domains: (1) management of chronic diseases, (2) preventive health care, and (3) level of prescribing of generic drugs and of defined categories of drugs. In return, GPs get additional payment on top of their FFS remuneration, taking into account the number of treated patients and the number of quality indicators. GPs can earn an additional €7,000 per year when achieving 85% of the targets and treating 1,200 patients. GPs' performance is monitored regularly and they can check their level of achievement on the NHIF's Web site. One year after its implementation in 2009, 15,000 GPs (one third of the eligible doctors) have

signed CAPI, which was far above the expectations of the NHIF. Two thirds of the GPs who signed the contract in 2009 received a remuneration in 2010. On average, a GP earned additional €3,000 in that year reaching about 45% of the targets (Or, 2010). The NHIF expects that money spent on CAPI will mainly be compensated by a reduction of (expensive) drug prescriptions and an increasing use of generic drugs.

Another country that implemented financial incentives improving structure and process of care is *Australia* with its Practice Incentives Program (PIP). The PIP was introduced in 1998 to provide recognition and financial incentives to general practices providing quality care in line with the Royal Australian College of General Practitioners' *Standards for General Practices* (Cashin and Chi, 2011). PIP payments are made in addition to normal payments to GPs, such as standard Medicare payments and patient payments. PIP payments provide incentives for a variety of practice areas, including information management, teaching and after-hours care, as well as targeted incentives, such as the Quality Prescribing Initiative (Australian Institute for Primary Care, 2008).

The introduction of care groups in *The Netherlands* gives providers not only financial incentives to improve care coordination, but also influences (albeit to a lesser degree) the quality of care. As providers can choose between different modules of care standards and adapt the modules to the specific patient needs, they can provide tailored care programs (Tsiachristas *et al.*, 2011). In addition, important quality information about the care standards may be collected via the Minimum Data Set. As a result, quality may become more measurable and transparent for insurers and providers as well as for the patients (Tsiachristas *et al.*, 2011).

England has the longest experience with quality-adjusted payment in Europe and has already shifted its focus from structure and process to outcome quality. The "quality and outcomes framework" (QOF) was introduced in 2004. Extra payments are provided for GP services linked to achievement of quality standards by the practice. The QOF is a set of indicators that provide a score upon which is based the amount of extra funds paid to each practice. Practices that are part of the primary medical services scheme are usually rewarded according to criteria agreed locally with their PCT. QOF scores are recorded by practices electronically and submitted to their PCT. The QOF has four main components: clinical standards (e.g. evidence-based treatment of patients with chronic conditions), organizational standards (e.g. e-health record), experience of patients (e.g. patient involvement in service development plans) and additional services (e.g. cervical screening, child health). A practice's entitlement to quality payments is determined through a quality scorecard, with a total of 1000 points available. In 2006–2007 each point was worth £125 per practice with

an average weighted population. The QOF is subject to annual negotiation between the General Practitioners Committee of the BMA and NHS Employers (Boyle, 2011).

Quality-related payment that goes beyond structure and process of care has been adopted in the *United States* as well. Physicians under the Physician Group Practice project are paid through the regular Medicare fee-for-service method, but they are eligible to share in “performance payments” for up to 80% of savings they generated (*if* they generate such savings). Performance measures base on cost efficiency and 32 quality measures phased in during the demonstration. The portion of the performance payments based on quality vs. cost efficiency began at 70% cost/30% quality/ the first year, then went to 60% cost/40% quality the second, and 50%/50% the remaining three years (Ivers and Wright, 2011).

As shown in Table 3, most of our considered countries relate their financial incentives to the structure or process of care. Only the United States’ Medicare Shared Savings Program and United Kingdom NHS contract for GPs specifically include incentive payments focused on the delivery of particular outcomes. Generally the focus has been shifting from approaches which simply take into account the presence (or potential presence) of patients with chronic disease towards funding incentives designed to encourage providers to make specific structural and process responses (Busse *et al.*, 2010).

TABLE 3		
INCENTIVES USED TO IMPROVE QUALITY OF CARE FOR CHRONICALLY ILL CARE IN SELECTED COUNTRIES		
<i>Financial incentives targeting structures of care</i>	<i>Financial incentives targeting processes of care</i>	<i>Financial incentives targeting outcomes of care</i>
Per patient bonus for physicians for acting as gatekeepers for chronic patients and for setting care protocols or providing patient education (FR)	Points for reaching process targets (UK: QOF; FR: CAPI; AUS: PIP)	Points for reaching outcome targets (UK: QOF)
Bonus for DMP/ PIP recruitment and documentation (GER, AUS)	Shared savings when cost-effective (USA)	Shared savings when cost-effective (USA)
Points for reaching structural targets (UK: QOF)		
Shared savings when cost-effective (USA)		
Notes: DMP = disease management program; AUS = Australia; FR = France; GER = Germany; UK = United Kingdom; US = United States.		
Source: Own elaboration.		

Table 3 shows how far the considered countries have developed approaches to financially incentivize structural and process quality as well as outcomes.

Payment that incentivizes the quality of care is a component in all of our considered countries. However, while all countries implemented certain provider incentives regarding structural aspects, improvements in the process of care are only remunerated in Australia, France, England and the United States, and outcomes are only a component of provider payment in England and the USA a component of provider payment.

Table 4 gives a synthesis of the approaches used to incentivize care coordination as well as quality of care. As can be seen, only the US Physician Group Practice achieves the highest level of care coordination (horizontal) and quality (vertical). Some of the Dutch care groups get rewarded for quality, but although the level of care coordination is high, they disregard bundled payments across services and providers, i.e. bundling only applies to services for one disease entity. In contrast, the German *Kinzigal* “bundles” (in a virtual way) provider payment across providers and services and therefore incentivizes care coordination, but with the loss of quality aspects. Whereas England focuses on outcomes of quality of care, approaches from Germany (DMP), France (CAPI) and Australia (PIP) only consider aspects of structure and process of care.

TABLE 4				
INCENTIVES USED TO IMPROVE CARE COORDINATION AND QUALITY OF CARE IN SELECTED COUNTRIES				
Quality of care	Care coordination			
	Financial incentives for coordination/extra effort	Financial incentives for bundling across services	Financial incentives for bundling across providers	Financial incentives for bundling across providers and services
Financial incentives targeting structures of care	DMP (GER) CAPI (FR) PIP (AUS)	QOF (UK)		PGP (USA) <i>Kinzigal</i> (GER)
Financial incentives targeting process of care	DMP (GER) CAPI (FR) PIP (AUS)	QOF (UK)	Care Groups (NL)	PGP (USA) <i>Kinzigal</i> (GER)
Financial incentives targeting outcomes of care		QOF (UK)	Care Groups (NL)	PGP (USA)
Note: AUS = Australia; FR = France; GER = Germany; NL = Netherlands; UK = United Kingdom; US = United States.				
Source: Own elaboration.				

VI. CONCLUSIONS

The demand for coordinated and high quality health care services grows, as the number of chronically ill patients with often multi morbidities has increased remarkably during the last decades; a trend that is still happening in the industrialized world. This is in a context of limited resources that have to be well-allocated among the different health care sectors and providers. For this reason, it is very important to develop and implement provider payment mechanisms that fulfill the requirements of (1) improving quality of care for chronically ill, (2) promoting better care coordination, and (3) being cost-efficient.

Considering cost-efficiency case-based payments as well as capitation payments have significant advantages compared to FFS, global budgets or salary. But they are not to be able to overcome the trade-off between efficiency and quality. Knowing about this shortcoming, all of our considered countries experiment with forms of quality-related payments usually paid in form of an extra bonus on top of the physicians' remuneration. However, they differ from each other in levels of quality, i.e. while some countries measure improvements in structure and process, other rely on outcome measures. In terms of incentivizing care coordination, a trend towards more bundled payments across providers and services can be documented, since it seems to be evident that bundled payments encourage providers to feel more accountable for the full range of services. The big challenge for all countries is to link these approaches towards payment mechanisms that consider both quality and care coordination. A systematic review by De Bruin et al. confirms our assumption by concluding that the number of P4P models with the intention to encourage delivery of chronic care through better coordination is still limited. Furthermore, hardly any information is available about the effects of such models on health care quality and healthcare costs (De Bruin et al., 2011). Another large review of 22 systematic reviews on P4P came to the following conclusion: "Findings suggest that P4P can potentially be (cost-)effective, but the evidence is not convincing; many studies failed to find an effect and there are still few studies that convincingly disentangled the P4P effect from the effect of other improvement initiatives. Inequalities among socioeconomic groups have been attenuated, but other inequalities have largely persisted. There is some evidence of unintended consequences, including spillover effects on unincentivized care. Several design features appear important in reaching desired effects" (Eijkenaar et al., 2013).

Although financial elements are a strong driver for providers to change their behavior, it should be noted that professionals are motivated by more than remuneration. In particular, physicians respond to reputational incentives, particularly where performance information is published (Kolstad 2013), although remuneration does remain a powerful lever for change.

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THE ROLE OF CO-PAYMENTS IN PUBLIC UNIVERSAL HEALTHCARE SYSTEMS

Jaume PUIG-JUNOY

I. INTRODUCTION

Moderate co-payments for healthcare, and particularly for drugs, are a controversial but consolidated element in most universal healthcare systems funded primarily by the taxpayer (Thomson and Mossialos, 2010; Tambor *et al.*, 2011). While in traditional cost sharing such payments are mandatory for patients (set rate, percentage of price or cost, deductibles), new forms of co-insurance more recently applied in many European countries are supplementary or optional (Drummond and Towse, 2012).

Assuming that the main concern that traditional co-payments are designed to address in cost-free systems is abuse (moral hazard), one way to curb such practices would be to heighten user responsibility by setting a price on service. Consequently, good co-insurance design would feature higher prices where the likelihood of moral hazard is higher and lower prices or none at all for greater therapeutic efficacy or value. At the same time, co-payments must be formulated with extreme care to ensure that equity is not compromised by private contributions. The minimum requisites for co-payments are that they should be moderately priced in general, scaled to income brackets and subject to caps. Efficiency and equity concerns place strict constraints on this type of co-insurance (Puig-Junoy, 2014).

New forms of cost sharing have arisen in response to two facts of growing importance in connection with the sustainability of universal public healthcare. Firstly, the decisions on what should and what should not be included are based more and more explicitly on social willingness to pay for incremental improvements in health and quality of life (Smith, 2013). Secondly, prices, co-payments among them, increasingly tend to be established on the grounds of scientific evidence of the value of new technologies and drugs and used as a management tool to encourage doctors and patients to opt for more cost-effective and higher value care. The optional and supplementary co-payments arising in this new environment have adopted a variety of forms on the international arena.

II. SUPPLEMENTARY CO-PAYMENTS FOR SERVICES EXCLUDED FROM STANDARD COVERAGE

Over the last 20 years, more and more medium and high-income countries whose universal public healthcare systems have few or no co-payments have instituted health technology and drug assessment agencies. The decision-making criterion used by such agencies for including or excluding benefits is the incremental cost-effectiveness ratio (Drummond, 2012).

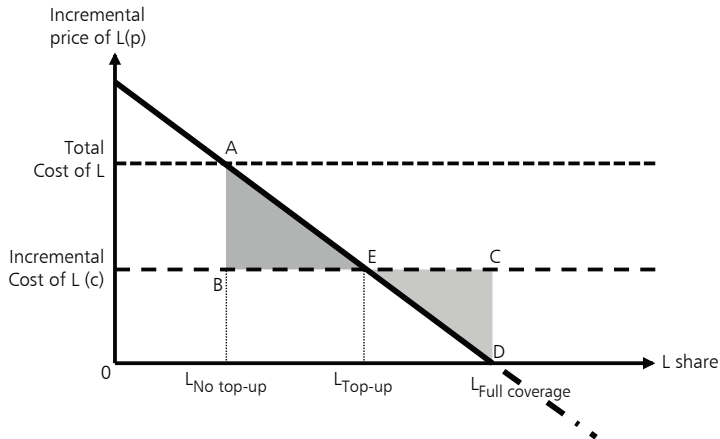
Explicit or implicit quality-adjusted life year (QALY) threshold costs are the basis for determining mutually exclusive (“binary”) public and private coverage (Chalkidou and Anderson, 2009) in which the possibility of additional co-payments (also known as top-ups) is not envisaged. Such binary coverage excludes the possibility of topping up costs, hence requiring patients who prefer treatments excluded from the public system to bear the full cost themselves. In practice, when the delivery of a drug involves hospital stays and tests, attention to severe side-effects (high toxicity in oncological treatments), follow-up or clinical tests, its exclusion may entail costs that extend far beyond the price of the drug itself. In the absence of top-ups, patients preferring that specific treatment must also pay all the ancillary costs out of pocket.

A midpoint might be defined between this type of non-top-up coverage and more generous systems that exclude no medical or pharmacological innovations with marginal benefits, irrespective of their QALY-assessed incremental cost (full coverage). Such middle ground would be based on supplementing what society is willing to pay (maximum incremental QALY) with private payments adjusted to an individual’s willingness to shoulder the extra cost (top-ups).

The graph in Figure 1 illustrates the effects of public funding decisions on these three types of coverage, where the demand for a new treatment declines with rising price (for the patient). For the sake of simplicity, assume that a universal public health system must decide whether to include a new treatment L whose QALY-assessed incremental effectiveness with respect to conventional treatment is nil or negligible (for instance, an improvement in intermediate clinical variables that does not translate into longer life expectancy or greater quality of life).

The total cost of treatment L and its incremental cost with respect to conventional treatment are found via economic assessment and a budgetary impact study. Assume c to be the incremental cost. The decision to cover the full cost of L (L_{cc}) with no co-payments entails no cost for the patient, leading to degree of usage D on the graph. If L is excluded from coverage because its

FIGURE 1

CHOICE OF TREATMENT BY INSURANCE COVERAGE

Source: Adapted from Einav *et al.*, 2014.

incremental cost is deemed to be too high (non-top-up coverage, L_{NC}) and only the most cost-effective option is found to be affordable, patients preferring L must bear its full cost. The degree of usage is consequently much lower (point A on the graph). Given that the incremental cost of L is c , full inclusion of L (L_{CC}) leads to a loss of welfare due to its overuse (area ECD). The decision to exclude L (L_{NC} coverage), in contrast, induces a loss of welfare due to underuse (area ABE). If L_t type coverage were provided, with patients paying top-up fees equal to incremental cost c (or some fraction thereof), the degree of use might be as represented by point E, thereby avoiding the loss of welfare observed for L_{CC} and L_{NC} .

Top-ups have prompted heated debate in some countries such as the United Kingdom whose national health systems envisage very limited co-insurance. The controversy around this type of fees will grow in universal public health systems as selective, cost-effectiveness-based coverage is increasingly applied to drugs and medical technologies. Additional co-payments are actually not foreign to health systems. No one can prevent patients wanting and able to afford post-operative physical therapy sessions from paying for them out of pocket, for instance. This contrasts with the ban on supplementary fees inherent in non-top-up coverage. In a number of countries, the United Kingdom in particular, this prohibition has generated intense debate in the wake of system exclusion of very high-cost oncological treatments with minor or nil efficacy.

A report commissioned by the British Government in 2008 from Professor Mike Richards concluded by recommending that patients should be able to make top-up payments for drugs, while maintaining their right to public system care, providing it is delivered in separate facilities or services not attending to other public system patients (Richards, 2008). In 2009 the British Department of Health implemented the Richards report (2008) recommendations. Consequently, patients wishing to make a top-up payment do not forfeit their right to NHS care (they need not choose between NHS and private care). Nonetheless, L_{NT} coverage continues to exist to the extent that patients are required to pay the full cost of the excluded drug.

Political debate around top-ups, as around traditional co-payments, is treacherous and highly controversial ground (Weale and Clark, 2010). Their supporters contend that since co-payments exist to a greater or lesser extent in all countries (for eyeglasses or hearing aids, for instance), not allowing them for more serious health conditions is unfair. Moreover, private top-ups already exist in the form of treatments not covered by public health or of private testing to “expedite” a diagnosis in the next visit to a public system doctor. Top-up opponents stress the inequity that would be inherently introduced in the public system if identical clinical needs are treated differently depending on patients’ economic wherewithal.

Exclusions from public coverage, in conjunction with top-up payments, may give rise to insurance coverage parallel to the public system (Weale and Clark, 2010) for very expensive treatments not regarded as cost-effective from the public health perspective. Low price elasticity may also help discipline the pharmaceutical industry when establishing exceedingly high prices for such innovations (van de Vooren *et al.*, 2013), although the development of a private insurance market could heighten the demand for treatments priced above the cost-effectiveness threshold. Provided that the goal is not to establish two-tier public insurance or reduce its scope, this could be seen as a way to focus public resources on more necessary and cost-effective treatments and patients unable to afford supplementary insurance.

III. VALUE-BASED CO-INSURANCE COVERAGE

Health co-insurance design may take into consideration factors other than the financial risk – moral hazard reduction dilemma, the effect of the access barrier on lower income patients or the impact on system funding. Cost sharing may also be designed to steer patient and physician behaviour in directions that will improve public health. In addition to the price elasticity of the health service for which a co-payment is to be established, consideration needs to be given to price elasticity relative to other services: imposing overly high co-payments

may have an adverse effect on future health spending (if a drug becomes unaffordable for patients who ultimately need to be treated in urgent care or hospitalised, for instance) and welfare, as has been observed in patients with chronic conditions (Gaynor *et al.*, 2007; Chandra *et al.*, 2010 and 2014). Such patients could be encouraged by low or even negative co-payments¹ to use effective treatments and adopt healthier lifestyles that would lower future health spending (possible savings) and improve their health.

Empirical evidence shows that when faced with mandatory, linear co-payments, patients reduce both the most and the least necessary care (Chernew and Newhouse, 2008; Pauly, 2004, 2011 and 2012). That would support the argument that co-payments for the highest value healthcare should be lowered or eliminated altogether. Conventional economic analysis and behavioural economics lead to a similar conclusion (Congdon *et al.*, 2011; Loewenstein *et al.*, 2012; Kunreuther and Pauly, 2014). When patients have incomplete information on the health benefits of a treatment, demand price elasticity is less of an issue than treatment cost-effectiveness, along the lines of value-based policy (Pauly and Blavin, 2008; Pauly, 2011 and 2012; Schokkaert and van de Voorde, 2011). In contrast, if patients have full information on health benefits, all that matters is price elasticity; if information is so scanty that even under full coverage demand stands below the efficiency level, elasticity is irrelevant. The aim of co-insurance optimisation would be to eliminate the overuse of services (i.e., when the benefit does not justify the cost) while ensuring that no needs go unattended (i.e., when the benefit is greater than the cost) (Pauly, 2004).

The underlying principle in value-based co-insurance is to provide generous or even cost-free coverage of the services shown by scientific evidence to have the greatest potential for improving patients' health, while delivering such coverage at a moderate cost (Fendrick *et al.*, 2013).

Although the practical application of value-based co-payments is no simple task, a number of examples of value-based coverage (summarised in Table 1) are in place in the United States and some European countries (Thomson *et al.*, 2013). The main areas where these measures are applied are in incentives for choosing preferred providers, encouragement for participation in preventive programmes (Table 2) and incentives in the choice of outpatient prescription drugs (Table 3). In the third area, encouragement may be related to cost-effectiveness (United States), therapeutic value only (France), clinical indication or the price of reputedly equivalent drugs.

¹ Evidence is in place of the beneficial effect of moderate financial incentives (negative co-payments) on adherence to treatment in preventive therapy against hepatitis C in heroin rehabilitation patients (Weaver *et al.*, 2014). Making drugs for chronic conditions cost-free (nil co-payment) has been observed to improve adherence to effective and necessary treatments, although even in such cases adherence rates continue to be low (Choudhry *et al.*, 2011 and 2014).

TABLE 1

SUMMARY OF VALUE-BASED COST-SHARING POLICIES IN THE UNITED STATES AND SELECTED WESTERN EUROPEAN COUNTRIES, 2012

<i>Policy area</i>	<i>Basis for defining "value"</i>	<i>Country</i>
Use of preferred providers		
Pattern of use	Lower cost sharing for using preferred providers (based on quality or cost criteria)	Netherlands (some purchasers), Switzerland (managed-care plans, usually cost criteria only), US (some purchasers)
Outpatient prescription drugs		
Economic evaluation	No or low cost sharing for drugs determined to be cost-effective; higher cost sharing for less-cost-effective drugs	US (some purchasers)
Therapeutic value	No or low cost sharing for drugs that are highly clinically effective; higher cost sharing for less-effective drugs	France
Clinical indication (drug)	Cost sharing is differentiated according to the severity of disease that drugs are intended to treat or to public health impact	Belgium, Finland, France, Greece, Iceland, Ireland, Italy, Norway, Portugal, Spain, UK, US (some purchasers)
Clinical indication (user)	Cost-sharing level depends on the patient's meeting certain clinical conditions that determine the (cost-) effectiveness of the drug	Finland, US (some purchasers)
Price in relation to identical substitutes	Holding quality constant, lower-cost drugs (generics) are reimbursed at a higher rate than more expensive drugs with identical bioactive ingredients	Reference pricing (ATC 5): Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Italy, Netherlands, Portugal, Spain, US (some purchasers) Cost sharing lower for generic drugs: Switzerland, US (most purchasers)
Preventive programs		
Participation	Bonus schemes for engaging in primary or secondary prevention (wellness) programs such as smoking cessation or regular exercise classes	Belgium, Netherlands, Germany, UK (pilot projects), US (some purchasers)
Measurable clinical standard	Positive financial incentives for patients who achieve a defined clinical standard or outcome	US (some purchasers)

Note: ATC is Anatomic Therapeutic Chemical Classification.

Source: Thomson *et al.*, 2013.

TABLE 2

**OUTPATIENT PRESCRIPTION DRUG COST SHARING BASED ON THERAPEUTIC VALUE
AND CLINICAL INDICATION IN THE UNITED STATES AND SELECTED WESTERN
EUROPEAN COUNTRIES, 2012**

<i>Country</i>	<i>Levels and criteria for tiered cost sharing</i>
Belgium	0%: vital drugs (such as for diabetes, for cancer, antiretrovirals) 25% (15%), with maximum of €10.80 (\$14.65)/€7.20 (\$9.77) and €16.10 (\$21.84)/€10.80 (\$14.65) when there are generics/copies: therapeutically significant drugs for non-life-threatening conditions (such as antibiotics, anti-asthmatics, antihypertensives) 50%, with maximum of €13.50 (\$18.31)/€8.90 (\$12.07) and €24.20 (\$32.83)/€16.10 (\$21.84) when there are generics/copies: therapeutically less significant drugs for systematic treatment (such as anti-emetics, spasmolytics) 60%, without maximum: drugs used for specific chronic conditions (such as coronary heart disease), antihistamines, vaccines 80%, without maximum: contraceptives, antispasmodics
Finland	0%: drugs for 34 severe chronic or life-threatening diseases where drug treatment is vital and effective (such as diabetes, glaucoma, breast cancer, epilepsy) 28%: drugs for 10 chronic conditions where drug treatment is necessary to maintain health (such as hypertension, asthma, coronary heart disease, rheumatoid arthritis) 58%: standard coinsurance rate for reimbursable drugs
France	0%: outpatient drugs seen to be irreplaceable and particularly expensive (therapeutic value classed as "major or considerable"); drugs for people with 30 chronic conditions (for the chronic condition only) 35%: drugs for serious conditions (therapeutic value classed as "major or considerable") 65%: drugs for benign conditions (therapeutic value classed as "major or considerable," "moderate," or "low but justifying reimbursement") 85%: drugs with "insufficient" therapeutic value
Greece	10%: drugs for listed conditions (including TB and asthma) 25%: all other drugs
Iceland	0%: drugs for life-threatening conditions (class A) 65% + copayment: drugs for asthma, hypertension, depression (class B) 80% + copayment: drugs for arthritis, menopause, etc. (class E) 100%: antibiotics, analgesics, etc. (class O)
Ireland	0%: drugs for 15 chronic conditions (for the chronic condition only)
Italy	0%: essential drugs, drugs for chronic conditions (varies by region) 100%: all other drugs
Norway	0%: drugs for serious communicable diseases (such as TB, syphilis, HIV/AIDS) and vaccines for communicable diseases 64%: in general only for long-term medication for chronic conditions, defined as more than three months per year
Portugal	0%: drugs for diabetes, epilepsy, Parkinson's, cancer, growth and anti-diuretic hormones, hemodialysis, cystic fibrosis, glaucoma, hemophilia, TB, leprosy, HIV/AIDS 10%: drugs for life-threatening conditions (category A) 31%: essential drugs for listed conditions, such as malaria, hypertension (category B) 63%: all other drugs of proven therapeutic value (category C) 85%: new drugs (category D) 100%: all others

TABLE 2 (continued)

**OUTPATIENT PRESCRIPTION DRUG COST SHARING BASED ON THERAPEUTIC VALUE
AND CLINICAL INDICATION IN THE UNITED STATES AND SELECTED WESTERN
EUROPEAN COUNTRIES, 2012**

<i>Country</i>	<i>Levels and criteria for tiered cost sharing</i>
Spain	10%: drugs for people with listed chronic conditions 40%: all other drugs
UK (England)	0%: all drugs for people with 8 chronic conditions (including diabetes), cancer, and continuing disabilities
US	Some purchasers are experimenting with patient-based approaches to differential drug reimbursement

Notes: For Belgium, lower figures indicate cost sharing for low-income groups. All currency was converted using Oanda.com (February 1, 2013).

Source: Thomson *et al.*, 2013

TABLE 3

**FINANCIAL INCENTIVES TO ENCOURAGE TAKE-UP OF PREVENTIVE CARE OR BEHAVIOR
CHANGE IN SELECTED WESTERN EUROPEAN COUNTRIES, 2012**

<i>Type of incentive</i>	<i>Examples</i>
Participation	
Immunization	Germany: cash or other rewards
Screening	Germany (example: annual pap smear): cash or other rewards UK (example: chlamydia testing): some local purchasers reward take-up with book vouchers, iPods, etc.
Dental check-ups	Germany: adherence to annual check-ups over a five-year period lowers the coinsurance rate from 50% to 30%; over 10 years the coinsurance rate falls to 20%
Counseling for bowel, cervical, or breast cancer and take-up of treatment	Germany: the ceiling on out-of-pocket spending is lowered from 2% of household income to 1%
Preventive consultations	Belgium: reforms propose giving patients who sign up for a global medical record (GMD) a free preventive consultation every three years (also applies to low-income households)
Preventive programs	Netherlands: since 2009 insurers can waive mandatory deductibles if people enroll in preventive programs for diabetes, depression, cardiovascular disease, chronic obstructive pulmonary disease, overweight; so far this mainly applies to smoking cessation (see below)
Exercise classes	Germany: cash or other rewards

TABLE 3 (continued)

**FINANCIAL INCENTIVES TO ENCOURAGE TAKE-UP OF PREVENTIVE CARE OR BEHAVIOR
CHANGE IN SELECTED WESTERN EUROPEAN COUNTRIES, 2012**

<i>Type of incentive</i>	<i>Examples</i>
Target-based	
Meeting blood pressure, blood sugar, cholesterol, and body mass index targets in a year	Germany: cash
Completing a smoking cessation program	Netherlands: since 2009 insurers can waive the mandatory deductible UK: some health authorities give vouchers for groceries to people who pass a carbon monoxide breath test
<i>Note:</i> Bonus schemes in Germany are offered at the discretion of individual sickness funds.	
<i>Sources:</i> Thomson <i>et al.</i> , 2013.	

Reference price systems based on therapeutic equivalence can be viewed as a fairly imperfect approach to value-based co-insurance. They differ from true value-based co-insurance, where the reference price (or the value-based price) is not arbitrarily established on the grounds of the lowest or mean price of therapeutically equivalent drugs, but on the incremental value of the health benefit afforded by a product relative to social willingness to pay for it (Drummond and Towse, 2012).

As countries progress toward establishing value-based prices for new drugs (QALY cost thresholds), co-payments may have a new role to play as top-ups for drugs with a higher than the value-based price (Drummond and Towse, 2012), thereby leaving room for individual preference that differs from social willingness to pay.² A reference price based on QALY cost thresholds indicative of social willingness to pay entails establishing optional co-payments for patients, who must bear the added cost of less cost-effective treatments. In this regard, the top-up fees for medical technologies and drugs not included in public coverage described in the preceding section are no more than a special case of optional co-payments based on a reference price established on the grounds of incremental efficacy (Garattini and van de Vooren, 2013).

² A willingness among most insured to pay high top-up fees would be an indication that the insurer's willingness-to-pay threshold is too low relative to social preference (Drummond and Towse, 2012).

IV. PAYING FOR WHAT WAS FORMERLY FREE: DRUG CO-PAYMENT REFORM IN SPAIN

Until mid-2012 and the entry into effect of Royal Decree 16/2012,³ Spain's National Health system (NHS) provided for cost-free drug coverage for pensioners and their dependents, while the working population (with some exceptions, such as public officials) had to pay 40% of the retail price for outpatient prescription drugs. For drugs prescribed primarily for chronic conditions, the co-payment was 10 %, with a cap per prescription. No ceilings were in place, however, for individuals' total monthly or yearly drug expense.

The nominal co-payment percentages (40 and 10%) had remained unchanged over the preceding 20-plus years, despite the fact that the mean actual co-payment had halved since the nineteen eighties (from 15% in 1980 to 7% in 2009). That decline in real co-payments would be explained by gradual population ageing, the large number of drugs with a 10% co-payment and over-consumption associated with potential moral hazard (Puig-Junoy *et al.*, 2011).

In June 2012 the co-payment for outpatient prescription drugs was reformed in depth, with three types of policies ("three-payment reforms") that came into effect nearly concurrently between late June and early October 2012 (Urbanos and Puig-Junoy, 2014). These policies were: (i) the temporary introduction of a regional one-euro fee per prescription in Catalonia and Madrid until it was suspended by the Constitutional Court (Tribunal Constitucional, 2014a, b); (ii) reform of national co-payment provisions, in which cost-free arrangements for all pensioners' drugs were replaced with a 10 % co-payment subject to a monthly cap, and non-pensioners' 40% co-insurance rate with a 50 or 60% co-payment, depending on income; and (iii) the de-listing of a broad spectrum of over 400 drugs, including most in certain categories (nearly all for minor ailments).

The timeline for application of these three measures nationwide and in some autonomous regions is given in Table 4.

Unfortunately, certain improvable elements of the reform have detracted from its major benefit: namely the heightening of public awareness that universal does not mean cost-free, in a context in which Spain had one of the world's highest drug consumption rates per capita. The first shortcoming is the existence of differential treatment within each income and need bracket for patients with serious diseases, since the co-insurance rate is very high and

³ Royal Decree-Act on urgent measures to guarantee the sustainability of the National Health System and improve the quality and reliability of its benefits. R.D.A. No. 16/2012 (20 April 2012).

TABLE 4

SPANISH NATIONAL AND REGIONAL COST SHARING: COMPARISON OF REGULATIONS BEFORE AND AFTER THE 2012 REFORM

<i>Cost-sharing measure</i>	<i>Description</i>	<i>Regional implementation</i>
	Before July 2012:	New co-insurance rates in all regions from 1 July 2012
	Pensioners: exempted from any co-insurance rate.	Exceptions:
	Non-pensioners: co-payment of 40% of consumer price (10% for drugs indicated for chronic diseases)	Basque Country: not applied until 1 year later
		Catalonia: applied to non-pensioners since 1 August 2012 and to pensioners since 1 October 2012
	After 1 July 2012:	
Changes in drug co-insurance rates at national level from 1 July 2012 (RD16/2012)	Exempted population: unemployed without any subsidy, and beneficiaries of some very low pensions Pensioners: a new 10% co-insurance rate on consumer price with a monthly cap depending on annual income (€8 and €18); €60 co-insurance rate for pensioners with income $\geq$ €100,000 Non-pensioners: 40, 50, or 60% co-insurance rate on consumer price depending on income with no cap. 10% co-insurance rate for drugs indicated for chronic diseases (maximum €4.13 per prescription)	During the first months of implementation of the reform, most regions were not able to apply the cap for pensioners in real time. They paid the co-insurance rate even though they had reached their month's cap and requested the reimbursement afterwards Exceptions: in some regions (i.e., Catalonia and Andalusia) co-insurance caps have been applied in real time without reimbursements since initial implementation
Delisting of a list of medicines from public coverage from 1 September 2012 (RD16/2012)	417 medicines indicated for minor symptoms were excluded from public subsidy	In all regions from 1 September 2012. No exceptions
A new co-payment rate of €1 per prescription in two regions	All patients pay a €1 rate per prescription with a maximum cap of €61 per year, independent of income Exempted population: beneficiaries of some very low pensions	Catalonia: from 23 June 2012 to 15 January 2013 Madrid: from 1 January 2013 to 29 January 2013

Source: Puig-Junoy *et al.*, 2014.

no cap on total expenditure is in place. The second is that non-pensioners' co-insurance, contrary to the intention, does not depend on income. While the rate per prescription is income-dependent, overall drug spending by patients in greatest need is not, inasmuch as 50% of co-payments are shouldered by the 5% least healthy individuals (Puig-Junoy *et al.*, 2007). Thirdly, the inability to apply pensioners' cap at the point of sale is not only embarrassingly expensive, but overrides the reduction of financial risk pursued. These reforms did, however, induce a spectacular decline in the number of prescription drugs dispensed by pharmacies for the first time in over 30 years.

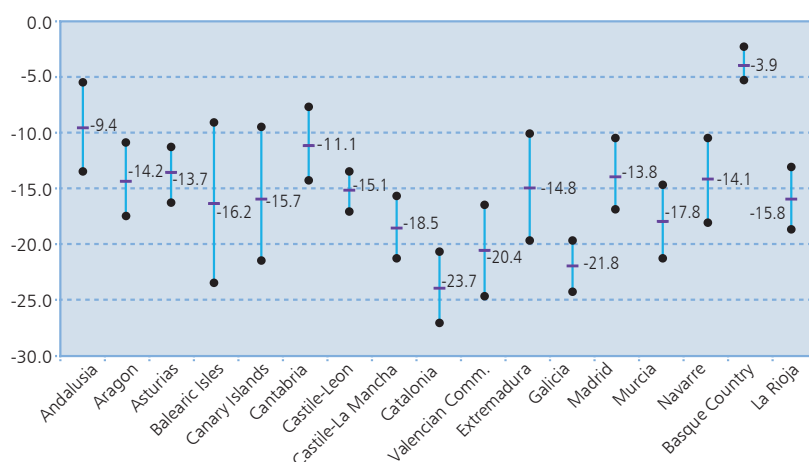
A study of prescriptions and nationwide spending in Spain between January 2003 and August 2013 (Antoñanzas *et al.*, 2014) revealed that the number of post-reform prescriptions was 12.8% lower than the number projected assuming the absence of reforms.

Puig-Junoy *et al.* (2014) ran 17 univariate ARIMA analyses, one for each autonomous region, covering the period from January 2003 to July 2013. Dynamic forecasts were calculated to estimate the counterfactual number of prescriptions that would have been issued in each region in the absence of reform measures. The response variable was the joint impact of the measures adopted

FIGURE 2

ESTIMATED IMPACT OF JULY 2012 CHANGES IN CO-INSURANCE RATES DURING THE FIRST 14 MONTHS OF APPLICATION (JUNE 2012/JULY 2013)

Cumulative reduction in number of prescriptions, in per cent



Note: The vertical lines indicate the 95% confidence interval.

Source: Processed by author from Puig-Junoy *et al.*, 2014

in each region calculated as the difference, expressed in per cent, between the cumulative number of prescriptions actually recorded after 3, 6, 12 and 14 months, and the (contrafactual) number predicted by the respective models. The findings revealed that a steep and steady 10 year climb in the number of prescriptions dispensed in Spain was followed: (i) by a drastic decline of over 20% in after 14 months of “three payments” in Catalonia, Valencian Community and Galicia; (ii) drops of over 15% in nine other regions; and (iii) a 10 plus-per cent downturn in 15 of Spain’s 17 autonomous regions (Figure 2).

The study also provided evidence of the high price-sensitivity of prescription drug demand and the huge potential impact of a small linear co-payment (1 euro per prescription) on drug use. The results of analysing regional differences in co-payment policies were consistent with the hypothesis that the first euro of co-insurance has a sizeable effect on drug consumption (Ellis, 2012).

Puig-Junoy *et al.* (2014) detected substantial inter-regional variability in the impact of Royal Decree 16/2012 on the number of prescriptions, because its provisions were not uniformly applied (the Basque Country did not apply the change in co-payments in the period studied) and because some regions established one-euro per prescription co-payments of their own (subsequently overruled by the Constitutional Court). Nonetheless, by the end of the time series, the effect of the Royal Decree appeared to have been “diluted”, although that observation was not statistically conclusive at the time.

Subsequently, the same authors (Rodríguez-Feijoó *et al.*, 2014) analysed prescription numbers over a longer time series, through February 2014, running ARIMA segmented regression analyses for each autonomous region and for Spain as a whole. One significant finding was that the effect of higher co-payments was short-lived: they induced a drastic but transient decline in NHS prescriptions without varying the underlying upward trend. While the number of prescriptions was observed to be lower than it would have been if co-insurance had not been reformed, the model predicted that the effect of the reform on prescriptions would disappear entirely in a few years’ time in certain regions and in Spain as a whole (six nationwide). In other words, although the co-payments introduced in mid-2012 managed to reduce NHS prescriptions drastically in the short term, since they had no impact on the prior upward trend, the numbers will tend to creep back up to former levels.

Given the high sensitivity to prescription prices, information is urgently needed about which groups of patients and drugs contributed most to the aforementioned drastic reduction. Such data are instrumental to assessing the potential decline in overuse attributable to zero cost and its impact on adherence to treatment, access to necessary and effective treatment, and

ultimately health (Urbanos and Puig-Junoy, 2014). Health authorities' scant understanding of and lack of interest in the impact of a measure with such far-reaching social effects⁴ (the typical *why waste time evaluating?* attitude) is at least surprising. Little or nothing is known about patients' and doctors' decision-making mechanisms when it comes to reducing the number of prescriptions dispensed or their effects on necessary/unnecessary consumption, adherence to treatment, the use of other healthcare services or health.

V. CONCLUSIONS

An orderly reform agenda cannot eschew a comprehensive definition of the role of user contributions. If co-payments are not to become a tax on illness, they must be assigned a limited fund-raising role. Optional, efficacy-based co-insurance is always preferable to linear mandatory co-payments (Smith, 2013; Puig-Junoy, 2013). In the former, generally associated with reference prices and chemical, pharmacological or therapeutic equivalence, patients pay only the difference between the retail price of a given drug and the cost of another less expensive, reputedly equivalent or similar medication (reference price). Patients are thereby able to avoid co-payments by choosing the reference price drug. If co-payments are mandatory, they should optimally be small for everyone and subject to a cap, defined in terms either of patients' total spending (Sweden) or a percentage of their income (Germany). The chronically ill and economically disadvantaged should be exempted (or the price lowered substantially for the latter). The cost of failing to take effective medication after a heart attack, for instance, is too high to discourage patients from following their doctors' orders by imposing high co-payments.

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⁴ The position against assessing co-payment reform adopted by Rubén Moreno, medical doctor and health policy spokesman for the conservative party in Spanish Parliament, is a case in point. It would, in his opinion, be tantamount to "questioning healthcare professionals' performance" (www.gacetamedica.com).

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PART V

Patient-centered care

SUPPORTING PATIENT ACTIVATION TO ACHIEVE THE *TRIPLE AIM*

Judith HIBBARD

The *Triple Aim* of better care, better health outcomes, and lower costs has become a focus for health systems around the globe, and increasingly health care reform efforts are designed to achieve these ends (Dentzer, 2013). Delivery systems are simultaneously looking for ways to improve health while cutting costs. The new reality for health care delivery systems is that they are being asked to do better with fewer resources.

A key strategy in some developed countries is to shift some of the financial risk for caring for defined populations to the organizations delivering the care. The goal is to increase the organizational accountability for cost containment, quality of care, and health outcomes. In the US Accountable care Organizations (ACOs) are emerging as a new organizational form that is both insurer and care provider (Fisher *et al.*, 2012). In England the new Clinical Care Group or CCGs are taking on a similar role. Both the CCGs and the ACOs are designed to take a population-management approach with their designated populations. With this new focus on accountability, there is a keen interest in new models of care that acknowledge and support the central role that patients play in determining both outcomes and costs.

Research shows that individuals who are more activated, that is have the knowledge, skills, and confidence to manage their health and their health care, have better outcomes and lower health care costs. A growing evidence-base indicates that higher activated patients are more likely to engage in positive health behaviors and to use health care resources more effectively. Using the research literature that quantifies this concept, we review the evidence linking patient activation to outcomes and critique the studies designed to increase patient activation, identifying strategies that appear most effective.

Finally, we identify and describe innovative programs that pioneering health care delivery systems are implementing to better engage and activate their patients. We describe how health systems are combining knowledge about their patients' ability to self manage along with their clinical profile in order to tailor care pathways that more effectively meet patients' needs, and are more efficient in the use of their health care resources.

I. WHY FOCUS ON PATIENT ACTIVATION?

It is well established that individual behavior is a major determinant of the development of chronic illness and that self-management is a prime factor in determining outcomes and functioning once chronic disease has developed (Schroeder, 2007). It is estimated that sixty to seventy percent of premature mortality and the determinants of health is driven by modifiable behaviors (WHO, 2005).

Patient activation, or the individual's knowledge, skill, and confidence for managing their health and health care, is predictive of most health and illness behaviors and many health outcomes (Hibbard *et al.*, 2004). Activation can be assessed using the Patient Activation Measure (PAM) (Hibbard *et al.*, 2005). This measure has become a shorthand way of assessing a patient's ability to self-manage.

The Patient Activation Measure (PAM) was developed using Rasch analysis. The PAM is a uni-dimensional, interval level measure with scoring ranging from 0-100. The thirteen items in the PAM are statements about beliefs, confidence in managing health related tasks, and self-assessed knowledge. The PAM has proven to be reliable and valid across different languages, cultures, demographic groups, and health status (Hibbard *et al.*, 2004; Hibbard *et al.*, 2005; Fujita *et al.*, 2010; Rademakers *et al.*, 2012; Herrmann *et al.*, 2012; Maindal *et al.*, 2009; Steinsbekk, 2008; Ellins and Coulter, 2005).

While the measure of activation is moderately correlated with socio-demographic factors, it is not a marker for socio-economic status (SES). Studies show that age, education, income, and gender account for about 5-6% of the variation in patient activation. In contrast, those same variables account for 25% of the variation in patient health literacy (Greene *et al.*, 2005).

The patient activation measure is not the only way to measure consumer or patient engagement. There are measures of confidence and measures of interest in participating in care. However, the PAM is the measure with the strongest psychometric properties and the largest empirical base to validate it and link it with multiple outcomes.

II. PATIENT ACTIVATION IS A PREDICTOR FOR HEALTH BEHAVIOR AND HEALTH OUTCOMES

Empirical studies indicate that people who are more activated are significantly more likely to engage in preventive behaviors, such as screenings,

regular check-ups and immunizations compared with people who score lower on the activate scale. Moreover, those who are more activated are significantly more likely to engage in healthy behaviors, like eating a healthy diet or regular exercise (Hibbard *et al.*, 2004; Hibbard *et al.*, 2005; Greene and Hibbard, 2012; Hibbard *et al.*, 2007; Fowles *et al.*, 2009; Mosen *et al.*, 2007; Becker and Roblin, 2008; Hibbard and Cunningham, 2008; Hibbard and Tusler, 2007; Tabrizi *et al.*, 2010; Salyers *et al.*, 2009).

1. Health behaviors

Less activated patients appear to be more passive about seeking and using care. For example, less activated patients are significantly less likely to have prepared questions for a visit to the doctor, to know about treatment guidelines for their condition, or to be persistent in asking if they don't understand what their doctor has told them (Fowles *et al.*, 2009; Hibbard, 2009). Lower activated patients are also 2-3 times more likely to have unmet medical needs and to delay medical care compared with higher activated patients, even after controlling for income, education, and insurance status (Hibbard and Cunningham, 2008).

Activation is also correlated with chronic illness self-care: higher activation scores are positively correlated with adherence to treatment, condition monitoring, as well as obtaining regular chronic care (Hibbard *et al.*, 2004; Hibbard *et al.*, 2005; Greene and Hibbard, 2012; Mosen *et al.*, 2007; Rogvi *et al.*, 2012; Lorig *et al.*, 2010; Rask *et al.*, 2009; Ellins and Coulter, 2005; Druss *et al.*, 2010; Remmers *et al.*, 2009; Becker and Roblin, 2008; Hibbard and Tusler, 2007; Schiøtz *et al.*, 2012; Skolasky *et al.*, 2008). While these studies control for illness severity and socio-demographic factors, the findings appear to be true for patients with a range of different conditions and different economic backgrounds, including studies of disadvantaged, ethnically diverse, and medically indigent populations (Rask *et al.*, 2009; Lubetkin *et al.*, 2010; Kansagara *et al.*, 2011; Gerber *et al.*, 2011; Alegría *et al.*, 2009; Hibbard *et al.*, 2008; Ryvicker *et al.*, 2012).

Studies show when PAM scores change, behaviors change in the same direction. Hibbard *et al.*, followed chronic-disease patients over a six-month period (Hibbard *et al.*, 2007). Increases in PAM scores were linked with improvements in 11 of 18 behaviors, including regular exercising and keeping a blood glucose diary. Harvey *et al.*, reported similar findings among employees, finding that when PAM scores increased, multiple behaviors improved, regardless of their activation level at baseline.

2. Health outcomes

Several studies have reported that higher activated patients are more likely to have clinical indicators in the normal range, including BMI, A1c, blood pressure and cholesterol (Greene and Hibbard, 2012; Rogvi *et al.*, 2012; Remmers *et al.*, 2009; Skolasky *et al.*, 2011; Terry *et al.*, 2011; Saft *et al.*, 2008). One study focusing on HIV patients found in multivariate models that every 5 point increase in PAM scores was associated with a significant improvement in CD4 counts, in adherence to drug regimens, and in viral suppression (Marshall *et al.*, 2013).

3. Healthcare utilization

More activated patients are apparently less likely to be hospitalized or to use the emergency department, and this is true even after controlling for disease severity and demographics (Greene and Hibbard, 2012; Remmers *et al.*, 2009; Begum *et al.*, 2011; Shively *et al.*, 2012). Results also show that patients who are less activated are almost twice as likely to be re-admitted to the hospital within 30 days of discharge (AARP, 2009; Begum *et al.*, 2011; Kirby, 2012).

Given the negative relationship between patient activation and the utilization of costly care, it is not surprising that health care costs are also significantly linked with patient activation levels. Hibbard and Greene found that PAM scores were predictive of the same year and the next year's billed costs of care, with lower activated patients having costs approximately 8% higher than more activated patients in the baseline year, and 21% higher in the subsequent year (Hibbard *et al.*, 2013).

In summary, patient activation appears to be relevant regardless of health condition. Outcomes for many different health conditions have been linked with patient activation, including diabetes, asthma, MS, COPD, congestive heart failure, HIV, cardiovascular disease, and cancer (Marshall *et al.*, 2013; Saft *et al.*, 2008; Remmers *et al.*, 2009; Rogvi *et al.*, 2012; Mosen *et al.*, 2007; Stepleman *et al.*, 2010). Patient activation is also relevant for patients with serious mental health conditions, such as schizophrenia, depression and post-traumatic stress disorder. Studies show that higher activation scores are significantly linked with positive recovery attitudes, higher levels of hope, fewer mental health symptoms, illness self-management behaviors, healthier coping strategies, less substance abuse, and more consistent medication adherence. (Kukla *et al.*, 2013; Green *et al.*, 2010; Salyers *et al.*, 2009). Finally, many of the findings have been replicated in studies carried out in different countries, including Denmark, Germany, the United Kingdom, Japan, Norway, Canada, the Netherlands, and Australia (Rademakers *et al.*, 2012; Fujita *et al.*, 2010; Maindal *et al.*, 2009; Herrmann, 2012; Ellins and Coulter, 2005; Begum *et al.*, 2011).

III. INTERVENTIONS DESIGNED TO INCREASE PATIENT ACTIVATION

Programs to increase patient activation have been carried out with publicly and privately insured populations and have implemented in the workplace (Terry *et al.*, 2011); in hospitals (Richmond *et al.*, 2010); in disease management programs (Lawson *et al.*, 2013; Hibbard *et al.*, 2009); in the community (Druss *et al.*, 2010; Lorig and Alvarez, 2011; Lorig *et al.*, 2010 and 2009; Frosch *et al.*, 2010); in primary care (Deen *et al.*, 2011; Parchman *et al.*, 2010) and online (Solomon *et al.*, 2012; Lorig *et al.*, 2010).

Studies show that it is possible to increase activation scores as a result of a targeted intervention. Several of the studies have also demonstrated improvements in health outcomes, including health quality of life, clinical indicators (such as LDL and blood pressure); adherence; improved lifestyle behaviors; reduced symptoms; increased question-asking in the clinical encounter; and use of the ED and hospital nights (Druss *et al.*, 2010; Terry *et al.*, 2011; Richmond *et al.*, 2010; Hibbard *et al.*, 2009; Lorig *et al.*, 2009; Lorig *et al.*, 2010; Lorig and Alvarez, 2011; Frosch *et al.*, 2010; Deen *et al.*, 2011; Mitchell *et al.*, 2013; Kirby, 2012).

Gaining in activation means that the individual has a greater sense of control over their health and feels empowered to take action. Strategies that support this seem to be ones that stimulate autonomous motivation. They are ones that assume the individual's perspective, and encourage the individual to make choices and to self-initiate behaviors. These interventions help individuals gain problem-solving skills and master self-management (Ryan and Deci, 2000).

The Stanford Chronic Disease Self-Management Program (CDSMP) uses trained lay leaders in community settings to facilitate workshops aimed at helping chronically ill patients better handle problems, engage in appropriate exercise, and communicate with family and providers. Participants in the CDSMP have demonstrated increases in activation, which have been sustained for up to 18 months post participation (Lorig *et al.*, 2010). A randomized trial using an adaptation of the CDSMP for patients with serious mental illness showed that at the six-month follow-up, participants in the intervention group had a significantly greater improvement in patient activation than those in usual care, along with greater improvements in adherence, physical activity, and in Health Related Quality of Life (HRQL) (Druss *et al.*, 2010).

Programs carried out in low-income clinics that focused on skills development, such as question formulation, have been shown to increase participation in care and to increase patient activation levels (Deen *et al.*, 2011; Alegria *et al.*, 2009). For example, Deen and colleagues randomized low SES patients into usual care

or into an intervention specifically designed to increase participation in care and increase activation. The intervention focused on teaching patients how to generate and prioritize their questions on decisions about health care concerns and treatments. Their findings showed increased PAM scores and an increased use of decision aids (Deen *et al.*, 2011). Kangovi and colleagues show that by using well-trained community health workers and working directly with patients in the community, activation increased and recurrent re-admissions were reduced (Kangovi *et al.*, 2014).

One of the more promising approaches is where the intervention is “tailored” to the individuals’ level of activation. Two studies evaluate the impact of tailored coaching on patient activation, health outcomes and utilization. The goal of tailored coaching is to encourage actions that increase individuals’ chances of success. Those who are less activated are encouraged to focus on one change at a time and to take small, manageable steps, even “pre-behaviors” (such as cutting out fast food 2 times in the coming week). More activated patients are encouraged to pursue behavioral changes that are clinically meaningful (like exercising 5 times a week for 30 minutes) (Hibbard and Tusler, 2007). Both studies show that tailoring coaching to the patients’ level of activation increases activation and improves outcomes, including reduced hospitalizations (Hibbard *et al.*, 2009; Shively *et al.*, 2012).

An important finding from the intervention studies is that those patients who started at the lowest activation levels tended to increase the most. This may be partly a ceiling effect, but it is encouraging that those who are very disengaged and passive can become active self-managers with an effective intervention (Hibbard *et al.*, 2009; Frosch *et al.*, 2010; Deen *et al.*, 2011).

In summary, the bulk of the evidence suggests that activated patients have an advantage in almost every way: they are more likely to engage in positive health behaviors and report better care experiences, demonstrate better health outcomes, and have lower utilization. Further, it appears that activation is changeable and that there are effective interventions that are successful in increasing activation in patients, even among the lowest activated patients. Finally, it appears that the benefits of being a more activated patient are enduring, yielding benefits over several years.

IV. USING THE RESEARCH FINDINGS ON PATIENT ACTIVATION TO IMPROVE CARE

A growing number of innovative health care delivery systems in the US are measuring patient activation and using that information to more effectively

manage individual patients and whole patient populations. The examples cited in this section come from health care delivery systems, State Medicaid programs, health insurance plans, communities, and a public employer.

Some of the strategies are designed to support increased activation in patients. Tailored coaching is a good example of this type of strategy. Other strategies are designed to assure that lower activated patients, who are more passive, are provided specialized pathways or supports to improve the chances that they will receive needed care. These strategies triage resources to patients based, in part, on their activation level. This approach optimizes resources by channeling support to those patients who need more help, while utilizing less labor intensive approaches with patients who are more able to manage on their own.

1. Segmenting the patient population to optimize resources

The goal of these approaches is to refine the way different patient segments are managed to more closely fit their needs, both clinically and behaviorally. The primary strategy is to identify patient segments that would benefit from different types of supports, more or less intensive supports, provided by more/less skilled team members. The examples below all have this common approach, but their focus and specific strategies vary.

Using a team-based approach, the Peace Health Patient Centered Medical Home (PCMH) found that it is more efficient when resources are deployed according to specific needs of different patient segments rather than to a “one-size-fits all” approach. Because low activated long-term illness patients are more passive, they utilized staff to pro-actively reach out to them with a “high touch” approach. Higher activated patients, with the same level of disease, were provided electronic or community resources and peer support. The higher activated patients are more motivated and ready to use relevant information supports and to pursue appropriate referrals. Table 1 below is a representation of this segmentation approach. It shows how resources are allocated more intensely to those patients with higher disease burden and fewer self-management skills (low activation). The PCMH found that by stratifying patient populations by both activation level and disease burden, it is possible to achieve better outcomes with the same amount of resources (Blash *et al.*, 2011a). The Stanford Coordinated Care Clinic, serving patients with multiple long-term conditions, also uses this segmenting approach with their patient population.

Health care organizations set up their segmentation strategies in different ways and are aimed at different patient sub-groups. For example, one large national health insurance company in the United States (US) uses an IVR

TABLE 1

SEGMENTING THE POPULATION

<i>PAM Level</i>	<i>Disease Burden</i>	
	Low	High
High	ELECTRONIC RESOURCES Usual team members Focus on prevention	PEER SUPPORT ELECTRONIC RESOURCES Usual care team Focus on managing illness
Low	HIGH SKILLED TEAM MEMBERS Focus on prevention	HIGH SKILLED TEAM MEMBERS More outreach Focus on developing skills to manage illness

(interactive voice response) system to call patients on the telephone and ask them to take the PAM. They use this approach with patients recently diagnosed with cancer. They recognize that these patients may need extra help in making treatment decisions, dealing with emotions, and/or navigating their care. The patients who score in the lower 2 levels of the PAM are immediately transferred to a live coach who begins to help them. Patients scoring in the higher 2 levels of the PAM are given choices via the IVR: a coach can call them if they would like any help, or they are given a menu of other possible resources. This insurance company found that this approach not only saved on their operational costs, but also significantly increased overall customer satisfaction. This is an example of a strategy that is primarily aimed at helping less activated patients receive the care they need, rather than a specific focus on increasing patient activation.

Another example comes from the public employees' retirement pharmacy benefits management program in the state of Ohio. For the clinical part of their segmentation approach, the program consists of selecting out enrollees who have multiple prescription medications (high risk), and reaching out to them and ask them to take the PAM online. Then they triage support among the high medication user population to provide coaching on medication management only to the lower activated retirees in this group. They tailor how they interact with and support these retirees in a way that recognizes that they are less activated, breaking everything down into smaller steps, and helping them to develop habits that will support medication adherence.

Fairview Health Services triages support in several different ways to lower activated patients (Hibbard and Greene, 2013). They have developed a series of activation level specific care protocols. Here are a few examples:

When during the course of a visit it is determined that a female patient is due for a mammogram, the usual approach is to schedule that patient for a separate visit for that mammogram. However, if the patient has a low PAM score, she is given the mammogram that day at that clinic. The rationale for this is that it is not possible to do this for all patients, but for less activated patients, there is a higher risk that they will not return for the test and that by accommodating the patient right then and there, they are appropriately using their resources to achieve better population health.

Because less activated patients are more passive in the medical encounter, Fairview Health Services provides a specially trained medical assistant (MA) who works with less activated patients during the rooming process in the clinic. The MA helps the patient formulate their questions before the clinician comes into the room. The MA also meets with the patient after the clinician leaves, to go over the visit summary and to review medications (Hibbard and Greene, 2013). This type of support helps the low activated patient. However, it would be a wasted or an inappropriate effort if used with higher activated patients.

Hospitals in over 30 states in the US are using the PAM to tailor support to patients as they transition from the hospital to home as a way to prevent readmissions. Research shows that less activated patients have almost double the risk of a re-admission in the post hospital period as higher activated patients (Mitchell *et al.*, 2013).

Re-admission prevention programs usually involve assessing activation level and then tailoring both how the patient is supported as they leave the hospital and the amount of support they receive. A few programs use specially trained staff to support lower activated patients during discharge and in the post discharge period. One program from Humboldt County in California utilizes a specially trained team to support less activated patients in the post-hospital period. They use volunteer student nurses to support higher activated patients (Quality Coalition, 2012). Their use of specialized, more expensive personnel for those most likely to have a re-admission in contrast with volunteer personnel with patients who are at lower risk of readmission is a way to optimize their resources for attaining the best outcomes. This program has been successful in reducing re-admissions by 20% (Quality Coalition, 2012).

2. Tailored coaching

Clinicians and health coaches have found that measuring patients' activation levels gives them three key advantages in supporting patients. First, it provides an assessment to help clinicians tailor the type and amount of support

necessary for an individual patient. It lets them know where a patient is on this continuum and enables them to meet the patient there. Second, the score provides guidance on the type and amount of support that is likely to be helpful to the patient. Third, it provides a metric to track progress for an individual patient or a population of patients.

Four levels of Patient Activation

- Level 1 - patients tend to be passive and feel overwhelmed with managing their own health.
- Level 2 - patients may lack knowledge and confidence for managing their health.
- Level 3 - patients appear to be beginning to take action but may still lack confidence and skill to support their behaviors.
- Level 4 - people have adopted many of the behaviors to support their health but may not be able to maintain them in the face of life stressors.

Tailoring Support to Activation Levels:

- **At level 1**, focus on building self-awareness and understanding behavior patterns, and begin to build confidence through small steps.
- **At level 2**, work with patients to continue small steps that are “pre-behaviors,” such as adding a new fruit or vegetable each week to their diet; reducing portion sizes at two meals daily; and begin to build basic knowledge.
- **At level 3**, work with patients to adopt new behaviors and to ensure some level of condition-specific knowledge and skills. Supporting the initiation of new “full” behaviors (e.g. 30 minutes of exercise 3 times a week) and working on the development problem solving skills.
- **At level 4**, the focus is on relapse prevention and handling new or challenging situations as they arise. Problem solving and planning for difficult situations help patients maintain their behaviors.

Clinicians currently using the PAM to assess patients consider it an additional vital sign that provides essential information for working effectively with the patient (Blash *et al.*, 2011b).

Measuring patient activation and tailoring coaching to the patient’s level of activation is the most common way that health care organizations are use the PAM (Hibbard and Tusler, 2007). For example, Medica, a health insurance company in Minnesota, measures activation in their telephonic and online coaching program. Support is tailored to the patient’s level of activation. They also use the same measurement to assess patient progress, using the PAM as an outcome measure as well as an assessment tool. Medica reports improved member satisfaction with their coaching program and they estimate that the program is saving them \$19-\$22 per member per month in utilization costs (Medica, 2012).

3. Changes in patient activation as a performance metric

To reach the *Triple Aim* of better health outcomes, improved quality, and constrained costs, increasing patient activation is likely necessary. Some

organizations are looking at increases in patient activation as an intermediate outcome of care that they should be aiming for. The Oregon Medicaid Coordinated Care Organizations (CCO- version of ACO), will use (gains in) patient activation as one performance metric to determine the effectiveness of the CCO. This is a new area that is just emerging and there is limited experience in looking at gains in activation over time as a performance metric that can be used to compare providers.

V. POLICY IMPLICATIONS

Patient activation may be among the most important and modifiable factors for determining chronic disease outcomes. Policy approaches have historically only focused on changing different elements of the delivery system. However, to make progress toward the *Triple Aim*, it will be important to also include a focus on what patients bring to the process. Having more activated patients can be an enormously important asset to delivery systems. Helping patients gain the skills and confidence they need to self-manage, looks to be a smart investment, and one that will dividends over time.

A key insight from research is that it is the more activated patients who show up for community programs or who use web-based health resources, or who use the patient portal of the electronic health record (Hibbard, 2011). This is an important finding, as it suggests that most current efforts to engage and activate patients are likely reaching higher activated patients, and are not reaching those who are more passive. An important policy step would be to evaluate all investments in patient engagement in terms of which patient segments are reached and helped by the programs. Specifically, we need to assess how well current efforts aimed at engaging patients are actually reaching and helping the least activated in the population.

Policy makers can assure a greater focus on supporting patients by including patient activation (or increases in patient activation) as a performance metric for delivery systems and rewarding providers and delivery systems that are successful with higher payments and with recognition. Policy makers can also use the measurement of patient activation to monitor progress and to evaluate the effectiveness of different programs.

The efforts to encourage health care delivery systems to be supportive of patient activation and engagement are just beginning. Drawing on the larger experience of quality improvement, we know that incorporating in measurement and provider accountability are essential elements for making progress. Improving

support for patient activation within the care process is no different and using measurement to do so will be crucial.

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PATIENT INVOLVEMENT: PATIENT PARTICIPATION IN DECISION-MAKING¹

María Dolores NAVARRO RUBIO

I. SOCIETY AND HEALTH

Present-day society is immersed in a moment of major change at all levels, from a demographic, technological and cultural standpoint, as well as from a political and economic one. These changes are perceived most specifically in the health field. Among other areas, health systems are currently characterized by the complexity of healthcare processes, the multidisciplinary environment of the treatments provided, the variability of clinical practice among centers and geographic areas, the implementation of new technologies and the cost associated with all of these factors. This situation contributes overall to healthcare becoming a challenge for society since, in addition to a growing demand for technically updated services, a level of healthcare must be offered that consistently respects the dignity, values, expectations and needs of the person, as well as of the community to which the healthcare services are offered (Nicklin, W., 2003).

Furthermore, in addition to the social change factors that have occurred, there are others that modulate the healthcare process, such as: the widest array of diagnostic possibilities currently in existence, the introduction of individualized therapies, the decrease in financial resources allocated to health, the decrease in the supply of doctors and nurses in given specialties; and the activation of the patient in making health decisions. Some of these factors have led to the emergence of a new patient model, still a minority in some areas of Spain. These patients adopt a more active role in the search for health information and are likewise interested in learning about diagnostic and therapeutic innovations from which to benefit. This active patient role may be performed by the patient himself and/or by a caregiver or close relative. Furthermore, and in addition to doctor input, the accessibility of health information via the media or the Internet has currently become the preferred source of information for the community and patients alike (Eysenbach, G., 2000; Beck, F., *et al.*, 2014).

Within this framework, an increasing amount of acceptance exists in society in favor of citizen participation in health management because it is a right that also enables progress in the democratic process and because health is a good that requires citizen and patient involvement (Jovell, A.J., Navarro

¹ Text partially adapted from various written materials and publications of Albert J. Jovell, *in memoriam*.

Rubio, M.D., 2008). On the other hand, the increased incorporation of patients in health management services requires better prepared health managers and professionals, and implies the contribution of greater knowledge to the management process. Allowing all health agents (including the patient) to contribute their views and express themselves improves the intellectual capital of health institutions, a situation that should therefore contribute to an improved performance (Jovell, A.J., Navarro Rubio, M.D., 2008). However, the prevailing reality is that modern health systems are unable to address many of the needs that patients experience, leaving civil society to assume some of the challenges brought about by this situation (Jovell, A.J., 2006).

II. THE NEW PATIENT

Within this context, it is necessary to establish a system based on the patient, *on the* “new patient” and *with* the new patient. To this, we must add patients’ demands for more individualized treatment, one that considers their specific situation, needs, values and expectations. This phenomenon occurs in a culture that attributes customer or consumer status to patient in terms of health services, thus qualifying them to demand and evaluate the healthcare received. The prototype of the passive and dependent patient associated with the paternalistic model between professionals and patients is being replaced with a more active patient model that seeks a partnership with professionals based on deliberation and shared decision-making (Manville, B., Ober, J., 2003).

The activation of patients and family members is associated with greater accessibility to information and to health services. This accessibility determines three types of patients: the non-informed, the suitably informed and the over-informed (Table 1). The first type corresponds to the *traditional patient* model, who maintains a paternalistic relationship with health professionals in which the decision of those with knowledge and experience prevails. This is a model of blind faith, usually found in older patients and in cases of serious diseases.

The current trend is aimed at obtaining a greater number of suitably informed patients, who know how to *adequately* combine information obtained from various sources with communication and a relationship with the health professional in an endeavor to become a patient actually involved in improving his health and quality of life.

The change experienced by the population at large in terms of access to information and, along the same lines, the appearance of a new patient model that is more informed and more interested in everything regarding health is a

TABLE 1
PATIENT PROTOTYPE

<i>Types</i>	<i>Characteristics</i>
Non-informed	Traditional doctor-patient relationship Patient passivity, dependence Responsibility of the professional
Suitably informed	Deliberative doctor-patient relationship Patient involvement in his health Shared responsibility
Over-informed/poorly informed	Non-existent doctor-patient relationship Patient as a customer of services Responsibility of the patient

fact in present-day society. Today, patients and family members, like any other citizen, are able to access information on health and healthcare services quickly and easily. Information technologies and the use of Internet have had a great deal to do with this. Therefore, the participation of informed patients in the decision-making process, either at an individual or a group level, is becoming a reality.

The 21st Century consists of citizens with a higher level of education, greater interest in health issues and the possibility of accessing more information on diseases and treatments on the Internet. In general, today's patients, like other citizens, are interested in informing themselves on subjects relating to their health. Patients are normally more secure if this information is provided by the doctor, nurse or pharmacist, but an increasing number of people are seeking health information on the Web.

This type of patient, virtually non-existent a few years ago when information was restricted to purely professional spheres, has a great deal to do with the presence of the Internet in daily life. According to different experts, health sites are the sites most consulted by users on the Internet after leisure sites. (INE, 2014).

Therefore, for example, to find health information, the average person normally uses a search engine such as Google, directly writing the term (disease or symptom) of interest. In this way, it is possible to find millions of pages (in Spanish, and even more if the search is performed in English) that address a given health problem (Table 2). In view of such a vast quantity of information

TABLE 2

SEARCH FOR INFORMATION ON THE INTERNET*

<i>Disease/clinical condition/risk factor</i>	<i>Pages in Spanish</i>	<i>Pages in English</i>
Osteoporosis	9,560,000	5,500,000
Infarct	6,350,000	5,070,000
Obesity	5,360,000	75,900,000
Fibromyalgia	3,540,000	6,330,000
Cancer	59,100,000	253,000,000
Asthma	14,600,000	21,000,000
Diabetes	75,100,000	104,000,000
Hypertension	2,510,000	16,100,000
Migraine	663,000	9,370,000
Alzheimer	81,700,000	32,000,000
Depression	6,710,000	111,000,000

Note: * Google searches, June 2014.

that can be easily and rapidly accessed, it should be recognized that there is insufficient expertise to assimilate this volume of information, and not all of it is quality information. In this regard, having more information does not necessarily mean being better informed. In fact, this requires a certain skill in selecting useful and quality information, and in ruling out any that is not. This places patients in a dilemma over how to approach the information that they are capable of accessing. This is, therefore, the *over-informed* patient or family member.

This situation does not necessarily mean that patients are well informed but rather quite the contrary; an excess of information exists without the exact knowledge of how to manage it and how to make the distinction between quality and poor quality information. If people give the same credibility to inaccurate information and scientifically proven information, this involves certain risks which may predispose them to actions or behaviors that are unhealthy or even harmful to health. Table 3 shows the characteristics that health information should have in order to be deemed as quality information. Accordingly, it is important for a series of aspects to be established regarding quality assurance of the information, indicating, for example, the author, sources and the latest date of its revision and updating, for example.

Therefore, one of the most frequent errors that occurs when delving into information via the Internet is giving the same importance to *websites* or pages

TABLE 3

QUALITY OF INTERNET INFORMATION

<i>Information Elements</i>	<i>Characteristics</i>
Authorship	Prestige, credibility, multidisciplinary approach
Date of the latest revision	Up-to-date information
Sources used	Evidence, stringency, comparison
Contact	Email or telephone, accessibility
Format	Clarity, easy to follow
Content	Clarity, stringency, precision
Ethical aspects	Not damaging, respectful

prepared by established scientific agencies or institutions as to pages of dubious quality, based on simple anonymous opinions that have not been verified. Furthermore, credence is often given to everything read about health, even though it may be somewhat anecdotal and has occurred to just one person. The possible confusions that may be generated by accessing multiple sources of information, of varied origin and unverified quality have brought about the need to include seals of quality on Internet, such as *Health on the net*, or the development of specific pages for patients.

III. THE INVOLVED PATIENT

One of the main agents taking part in this change is the role played by citizens. These are citizens who wish to be involved in what goes on in society and that, as such, participate increasingly in decision-making processes. Therefore, citizens who one day become patients incorporate their citizen participation experience into their new role as patients, known as patient *empowerment*. As a result of this situation, patients currently tend to be persons committed to their health and deem the information as a right that allows them to put such participation into practice, on an individual level as a person who is ill or at a group level, as advocates of other patients (Jovell, A.J., *et al.*, 2006; Jovell, A.J.; Navarro, M.D. 2006).

At the individual level, the education of patients, the relationship they have with the professional and their experience as citizens will assist them in managing their own situation: taking part in the process for the care of their disease, with responsibility for their care and for following treatment plans indicated by professionals. At a group level, in order for patient participation

to occur in the various decision-making boards, it is necessary for someone to represent them and express their opinions with respect to how the healthcare they receive should be organized. Table 4 illustrates the guidelines prepared by the *International Alliance of Patients' Organizations* (IAPO) on the aspects to be considered for proper patient participation. At a group level, therefore, participation involves enacting legislation and public policies that place citizens at the center of health systems.

TABLE 4
GUIDELINES FOR PROMOTING PATIENT INVOLVEMENT
<i>Participation</i>
Identify the issue for participation and set out the objectives
Identify appropriate patient representatives for participation
Encourage participation and motivate
Determine appropriate methods for participation
Provide information, education and training to enable participation
Evaluate participation results
Recognize and express gratitude for participation
Recommence the participation process and improve any aspects necessary
<i>Note:</i> * Adapted from: IAPO (International Alliance of Patients' Organizations). http://www.patientsorganizations.org/participation

1. The member patient

The crisis of the welfare state and the current economic and financial crisis involve a transfer of competences from governments to citizens, who must assume activities regarding solidarity and mutual assistance. The new patient model emerging in present-day society is thus accompanied by a vast development of association memberships and by the appearance of patient associations as intermediaries in the relationship between citizens and public administrations, and between patients and health professionals.

In Spain, the most sensitive and knowledgeable group in terms of patient needs is represented by patient associations. These more active patients promote the early adoption of therapeutic innovations by decreasing research periods and reducing red tape. (Westfall, J., Stevenson, J., 2007; Boote, J., Baird, W., Beecroft, C., 2010). They attend scientific meetings in search of existing knowledge from clinical trials or other studies underway and organize their own

specific patient conventions.² On occasion, when patients discover their new situation, they may need others who had the same experience to help them assimilate what is happening, either by specific information, meetings with other affected persons, education or psychological counselling, and others. In this regard, patient associations fill that niche and play an increasing role in the health decision-making process.

However, the excessive distribution and fragmentation of patient associations, together with highly diverse expectations, interests and resources among them, has traditionally hindered the identification of key advocates, thus preventing their participation in many group discussions on the current healthcare system.

In recent years, the growing collaboration among Spanish patient associations enabled the preparation, in the year 2004, of the Declaration of Barcelona of patient organizations (<http://www.fbjoseplaporte.org/dbcn>), considered to be the first Bill of Patient Rights prepared in Spain by a group of patient organizations. As of that moment, the Spanish Patient Forum (FEP) was created (<http://www.webpacientes.org/fep>), which represents patients and their families. Over the past 10 years, through participation on several commissions and task forces on a national and international level, and the attainment of several accolades and awards, the FEP has established itself as the main collective movement of patients in Spain today. It also forms part of the *European Patients Forum* (<http://www.eu-patient.eu>) and, in the year 2006, prepared its Political Agenda (<http://forodepacientes.org/agenda-politica/agenda-politica-en-castellano>) that includes the democratization of health by means of the active incorporation of patient representatives in decision-making processes and the adoption of the principles of deliberative democracy. Participation seen in this light entails a significant cultural change in the relationship between the health professional and the patient, since it represents a shift from the paternalistic healthcare model to another, more deliberative one. However, in order to be able to participate effectively, patients and professionals should be trained in this new relationship model for shared decision-making.

2. The educated patient

Within the current context of uncertainty with respect to the scarcity of resources and the sustainability of the health system, the co-responsibility of patients and citizens (together with professionals) is being promoted for the care of patients' own health and the appropriate use of health resources and services. To be co-responsible for your health, to care for yourself, to

² Specifically, GEPAC (Spanish Group of Patients with Cancer) has already organized its third congress bringing together over 3,000 people between patients, family members, volunteers and health professionals.

follow professional treatment plans, to adopt healthy lifestyles and to make a responsible and solidary use of healthcare services are some of the responsibilities or obligations of patients (Navarro Rubio, M.D., 2008). This fact is essential for improving the quality of healthcare and for reinforcing confidence in health institutions and professionals; however, the same holds true for considering the value of the personal experience gained by patients in living with their disease. This involves an increased civic education of patients and citizens, as well as an improvement in the quality of information that patients receive, in addition to improved abilities and skills for patients to manage their disease.

The emergence of this new and more active patient model has not been accompanied by a general increase in health proficiency, also known as *health literacy*. In this manner, citizens perceive the asymmetry of information and knowledge with respect to the professionals as an element that hinders their participation in the decision-making processes that affect their health. Health literacy, or the acquisition of health competences and skills, is an element that contributes to the increased participation of patients and of the population at large in the health decisions that affect them. This characteristic of the new patient model may be developed and acquired through education or training and research processes.

Together with patients, family members acting as primary caregivers are key when patients educate and train themselves in self-care skills or participate in decision-making. The purpose of training patients and family caregivers is to increase the so-called health literacy, aimed at increasing health competences and skills. A low level of competences entails a decreased perception of the health condition, lower compliance with therapy, an increased use of services and increased cost of healthcare (Nielsen-Bohlman, L., Panzer, A.M., Kindig, D.A., eds., 2004).

Communication and transmission of information, whether oral or written, has a significant impact on improving healthcare. Thus, health literacy has been defined as the ability of persons to obtain, process and understand basic information on health and the healthcare services needed to make appropriate decisions (<http://www.hsph.harvard.edu/healthliteracy>). Among others, situations such as noncompliance with therapy by the chronically ill in primary care, inadequate monitoring of patients taking multiple medications or the high prevalence of unhealthy lifestyles serve as examples of low levels of health literacy.

In this regard, it is necessary to develop information and documentation strategies that ensure accessibility to accredited quality health content in a comprehensible language, and to promote the improvement of abilities and

skills of patients, family members and caregivers through training in specific competences. It is likewise necessary to pursue social and health research on what it means to be a patient, to evaluate the impact as well as the emotional and social consequences of diseases and assess the perception and experience of users and patients with regard to health services.

This new, more active patient model makes it necessary to have information strategies and to incorporate new technologies that, together with training and research activities, favor an increased knowledge by patients on how to cope with their disease, while ensuring correct participation in the decision-making process. The changes described make it possible to think that the years ahead will produce a greater critical mass of patients who will not only access improved information on diagnostic and therapeutic innovations, but will also have increased knowledge about the clinical conditions affecting them. This transition from the invisible and overlooked patient to the informed and educated patient culminates with the development of specific education strategies that determine "expert patient" status. Some examples of this include the "Expert Patient in Chronic Diseases" program of Stanford University in the United States, the "Expert Patient" program of the British *National Health Service* or the *Institut Català de la Salut* (ICS) program. Other examples that align these initiatives and activities are those of the *European Patient's Academy on Therapeutic Innovation* (<http://www.patientsacademy.eu>), the Patient University (Universitat Autònoma de Barcelona) (<http://www.universidaddepacientes.org>) or the Network of Patient Schools of the Ministry of Health and Equality (<http://www.escueladepacientes.es>), among others. These experiences may be found in the area of joint competences and actions among healthcare system agents: administration, university, professional associations, scientific societies, companies and patient associations.

More recently, the Instituto Albert J. Jovell de Salud Pública y Pacientes (*Universitat Internacional de Catalunya*) wagered to take a further step and include patients, professionals and university students in areas of health sciences to jointly improve the roles of the various agents of the healthcare system (including patients) and attain the much desired quality of healthcare that actually includes the patient as the focal point of the system.

IV. THE FUTURE PATIENT

In summary, a patient-based system should comply with the following basic criteria: representation and satisfying expectations. The representation criterion requires patient participation on the governing boards of health administrations and institutions and in the drafting of public policies. To do so requires training.

Meeting patient expectations involves the materialization of the implicit social contract between the medical profession and society. Patient expectations require a healthcare orientation focused on finding the most suitable response to patients' needs. Notable among these are an improved coordination among care levels and preparation of health professionals to address patients' overall needs. It is also important to assess the advantages of self-care by an informed patient and to make improvements in the provision of health services (Jovell, A.J., 2005). But that, too, requires training.

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PART VI

The health care workforce

THE ECONOMICS OF INTERPROFESSIONAL EDUCATION: COSTS AND BENEFITS

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Interprofessional education: "Occasions when two or more professions learn with, from and about each other to improve collaboration and quality of care."

Caipe, 2002.

I. INTRODUCTION

Interprofessional education (IPE) works to improve health and social care towards enhancing the wellbeing of individuals, families and communities. In addition, outcomes may help to reduce costs in service delivery. Economies can be inferred in some evaluations of IPE, including those that we cite, but demonstrating that resources have been saved is elusive when the dividends are long-term and other variables intervene.

IPE needs investment ranging from infinitesimal to substantial depending on its length, location and level. Add-on costs need to be taken into account when professional courses are remodelled to include IPE. Savings where, for example, some large group teaching is introduced, may then be off-set, but data are lacking to conduct cost/benefit analyses. We know of only one in IPE where Hansen *et al.* (2009) compared two paediatric wards in Denmark. They found no differences in costs and benefits between one that incorporates an interprofessional training ward and the other that does not.

Interprofessional teachers may be reluctant to mention money for fear in straitened times that the spotlight might be turned on the cost of those IPE interventions that are relatively expensive. The longer constraints in public expenditure continue, the less tenable that stance becomes. Costs –and benefits– need to be transparent. The interprofessional rationale formulated in more affluent times may need to be revised to take into account economic constraints in no-longer-so-rich as well as poor countries before the impact of IPE can be built into strategies for global health (Frenk *et al.*, 2010; IOM, 2013).

We view IPE through an economic lens, distinguishing among the cost of different types and suggesting how the more expensive can be held in check or

reduced. We revisit the case made for IPE in successive reports, citing examples that promise not only to improve patient experience but also to reduce costs in service uptake and delivery.

II. TYPES OF IPE AND THEIR IMPACT

IPE may be pre- or post-qualifying. Differences within each are, however, as great as between them. Pre-qualifying IPE may be in the classroom or on placement, for a few or many professions employing one or more interactive learning methods at all stages or any stage during professional courses. Discrete interprofessional elements may be introduced relatively cheaply into pre-qualifying professional courses (in the classroom or on placement). Costs rise when these elements are interwoven into these courses, resulting from the time required for negotiation, planning, monitoring and management.

The evidence confirms that pre-qualifying IPE, when well planned and delivered, meets interim objectives, i.e. establishes common knowledge bases and modifies reciprocal attitudes and perceptions. The same sources confirm that post-qualifying IPE can, in addition and again, when well planned and delivered, change practice and impact on patient experience (Barr *et al.*, 2005; Hammick *et al.*, 2007).¹ The first lays the foundation for the second.

Might a single ‘high-potency’ IPE injection be enough with or without one or more boosters? Can IPE be as effective when it is brief and discrete as when it permeates professional learning throughout? Evidence has yet to be assembled to confirm that added investment in IPE brings added dividends. So far, the number of IPE evaluations eligible for inclusion in systematic reviews has been too few to discriminate in these ways.

Recent research in the United Kingdom (UK) found prequalifying IPE context dependent. Form and content were shaped by opportunities and constraints, including the readiness of the host universities to assign time and resources, to realign professional courses to accommodate interprofessional learning and teaching, and to cede professional curricula to become interprofessional (Barr *et al.*, 2014).

Post-qualifying IPE is even more varied. It may be implicit or explicit during everyday work, team meetings, learning sets, away days and so on, or during post-graduate, masters or doctoral programmes in universities.

¹ A review proposed under the auspices of Best Evidence Medical Education (BEME) will follow a similar procedure and provide more up-to-date findings.

III. CONTAINING COSTS IN IPE

All new educational strategies require investment in planning and piloting, and this is the case for IPE more than most given its many stakeholders whose perceptions and expectations take time to reconcile before collaboration can be assured. Frequency of meetings tends to diminish once the IPE is operational, but ongoing collaborative machinery is still necessary.

Constraints on university budgets drive the case for bringing students together across the professions in large classes with common curricula and didactic teaching. However, the professions may resist hasty and wholesale imposition of combined classes for fear that their distinctive identities will be eroded and their expertise diluted. Interprofessional teachers may fear that the professions will then withhold their support while IPE principles of mutual reinforcement and respect (Barr and Low, 2012) will be threatened.

Faculty for the professional programmes may well agree, after allowing time for trust to grow, to combine classes when it becomes clear to them that learning needs overlap. The evidence, however, confirms the need for IPE (consistent with its definition) to be interactive in small groups before improved understanding among the professions will follow. A trade-off may be agreed with some relatively economic large classes and some relatively expensive small groups. The cost of small group learning may be contained where students are selected as facilitators supported by their teachers. Final year students, by then well versed in interprofessional learning, may be invited to facilitate groups for students in earlier years.

Arguments held sway during the formative development of IPE that it should be allowed no further than the margins of professional education lest it intrude into pre-ordained professional curricula. For example, IPE was arranged on Saturday mornings or during practice placements where, it was assumed, opportunities would arise naturally for them to observe and meet members of others professions. Perhaps this is the case, but students were left to relate, as best they could, professional learning in the university and interprofessional learning on placement. Nor was it easy to find enough placements with collaborative cultures, obliging teachers to simulate all or some of the interprofessional practice learning in the classroom (Barr *et al.*, 2014).

E-learning has been widely invoked in IPE to improve teaching and conserve resources. Students may undertake that learning in their own time with long-arm support from their teachers without 'encroaching' on their profession-specific studies. The argument is seductive; the evidence cautionary. E-learning may be more effectively built into 'blended learning' including face-to-face interaction with teachers and fellow students (Barr *et al.*, 2014).

Costs associated with IPE can then be contained and sometimes reduced. Investment - large or small - is returned with interest when it leads not only to better but also more affordable care.

IV. PROMOTING IPE LOCALLY, NATIONALLY AND INTERNATIONALLY

IPE projects pioneered locally attract attention nationally and internationally. The WHO was noteworthy for its diligence in assembling examples first in Europe (D'Ivernois and Vodoratski, 1988) and then worldwide (WHO, 1988). Some national governments, notably in smaller and poorer countries, took their lead from the WHO. Others such as Norway and the UK invoked common learning without reference to IPE experience. In Canada, federal government took cognizance of such experience in other countries. Even more recently this was the case with the United States, in partnership with the professions and stalwart backing from major charitable foundations. The longer it takes for a government to engage, the more likely it seems that its IPE policies will be grounded in experience and evidence. Nevertheless, there are still many countries whose governments or other national institutions have yet to grasp the interprofessional nettle.

Successive reports by the WHO have commended IPE in order to improve job satisfaction, increase public appreciation of the healthcare team and encourage a holistic response to patients' needs (WHO, 1973) towards the goal of "health for all" (WHO, 1978). The first of two WHO expert working groups drew on the experience of its members. IPE, they argued, was not an end in itself, but a means to ensure that different types of health personnel could work together to meet the health needs of the people (WHO, 1988). The second group, urged by WHO officials to respond to the organization's priorities, asserted that IPE led to effective collaborative practice which, in turn, optimized health services, strengthened health systems and improved health outcomes. It cited evidence, albeit selective, that collaborative practice reduced hospital admissions, patient stay, staff turnover, clinical errors and more (WHO, 2010).

The Independent Lancet Commission asserted that professional education was no longer fit for purpose. It stated that it must respond to the changing needs of the workforce. Complacency would only perpetuate the ineffectual approaches from the 20th century unfit for the 21st century challenges. Learning should be transformative. Education interdependent between professions should be competency-based and outcome-led (Frenk *et al.*, 2010). The Institute of Medicine argued that IPE would help achieve better patient outcomes, better

health, and more efficient and more affordable educational and health care systems (IOM, 2013).

Citing the WHO 2010 working group and the 2011 Lancet Review, the WHO in its first review of health professions' education (WHO, 2013) sought "to spark many dialogues – to tackle the challenges facing the professional health workforce and contribute to a new era for health professional education".

V. SIX CHALLENGES

In the remainder of this chapter we focus on ways in which IPE can help meet one or more of the above expectations and achieve savings in education, practice or both.

1. Promoting teamwork

Interprofessional teamwork furthers the cost effective deployment of personnel. Boundaries between professions become flexible as team members grow to trust each other. Tasks may be undertaken for one another including referrals from higher to lower paid workers. Members may modify, scale down, postpone or withdraw interventions to complement those of others within treatment plans agreed by the team (Reeves *et al.*, 2010).

But teamwork also carries costs. Meetings can be protracted. Case discussions can expose new needs from additional perspectives calling for more or more intensive interventions by other professions. Additional claims on time may be offset later, although the reverse can be the case, notably during long-term care for many of the growing number of frail older people.

The first of two examples illustrates how a primary care team engaged in its own development on the job:

Weekly meetings of the Primary Care Team (PCT) in Kinsale in the Republic of Ireland had been held since 2008 to discuss the multidisciplinary management of patients. In 2011, the team decided that although sharing their expertise enhanced their ability as team members to problem solve complex social and medical problems, learning informally with and from each other was opportunistic and haphazard, so they explored the possibility of formalizing their learning through dedicated IPE. Following a literature review and focus group meetings, the team decided to go ahead while being cognizant of potential difficulties. Planning the IPE involved all team members in each step of the design and implementation process calling on external advice.

The aim was to organize and facilitate successful ongoing IPE for the team and the objectives were:

- to design relevant and meaningful regular interprofessional meetings for the team;
- to enhance understanding of each others' roles;
- to improve team members' knowledge and skills of primary care topics;
- to collaborate with other healthcare providers in the community.

The content was to be patient centred, appropriate for all and of immediate relevance. It included the primary care management of dementia, motor neurone disease and adolescent mental health and data protection.

Monthly educational meetings began during 2011 at the local community hospital. On average there were twenty attendees, eight general practitioners, four public health (community/district) nurses, two physiotherapists, one speech and language therapist, one psychologist, one dietician, one occupational therapist, and two practice nurses. Occasionally, staff from the community hospital also attended.

The Project was evaluated after three months, using a focus group and an anonymised questionnaire. Feedback was overwhelmingly positive. Key themes which emerged included the value of integrated teamwork, feelings of heightened self esteem, enhanced respect for fellow professionals and benefits for specific patients. The PCT won an Irish Medical Times Irish Healthcare Award for this project.

Foley, 2012.

The second example illustrates how developing teamwork competence is being implanted in an undergraduate medical course:

The Formación Interprofesional education innovative program started in the School of Biomedical Sciences in the Universidad Europea (Laureate Universities), Madrid. The focus is not so much on developing ideal teamwork situations (rare), but individual teamwork and communication competencies aimed at navigating both in ideal and in difficult interprofessional teamwork situations. Through role-playing, movies and dozens of real cases, business school techniques are applied to conflict resolution, emotion management, authority models, shared decision making, roles, status and autonomy using the Program on Negotiation from Harvard University (Fisher, 2005). The final goal is to promote collaborative practice in complex and rapidly changing environments.

Beunza, 2013.

2. Strengthening care in the community

IPE has been encouraged in many countries to assist in implementing policies for primary and community care urged by the WHO (1978). Interprofessional

collaboration, the evidence suggests (WHO, 2012), can result in more effective care that delays or, better still, avoids hospital admission, and expedites discharge planning, thereby helping to shorten length of stay.

Yet these are not the only potential savings. Outworn and outdated institutions have been closed as long-stay patients with mental illnesses or learning difficulties have been discharged into the care of interprofessional community-based teams. Sites and premises have then been released on to the property market generating capital to be reinvested in community services.

The College of Health Science at Moi University in Kenya aimed to train caring, competent and practical professionals to give quality, cost effective and equitable healthcare to the underserved, mainly rural population. The interprofessional learning enabled students to conduct community entry techniques, community diagnoses and community-based nutritional assessment, and to participate in health centre and outreach activities. The learning was interactive, problem-based and multifaceted, covering: community organisation and its resources; research methods; principles of epidemiology; demography and biostatistics; healthcare delivery systems in Kenya; primary healthcare; and factors affecting assessment of nutritional status in a community. The interprofessional course was included during the second year of undergraduate programmes for medical, dentistry, nursing, physical therapy and medical psychology students. The evaluation found that the learning promoted responsible citizenship and health for families and communities.

Mining, 2014.

3. Integrating care

Implementing strategies for care in the community may be impeded by the division between nationally administered health services and local administered social care services, as in the UK, which results in duplication and overlap. Successive attempts have been made in the UK to resolve these problems over many years through joint planning and finance, although this has failed to address underlying differences in culture and governance. Strategies for integrated care currently being piloted in selected locations are driven by the same dual objectives as those for care in the community – better and more affordable care by reducing hospital admissions and length of stay and expediting discharge planning.

In theory, IPE, especially work-based, has an indispensable role in engaging workers to help understand impending changes and to weigh these implications for their own profession in relation to others. In practice, policy makers too often resort to structural solutions with insufficient heed for the stress generated between the professions on whose collaboration successful

implementation depends. Stress prompts defensive reactions as boundaries are redrawn, roles redefined, jobs jeopardised and power redistributed between the professions. Underlying anxieties can be eased when shared, as the professions find common ground on which to establish new ways to work together.

Each healthcare discipline at the University of the Philippines Manila had its own college, community immersion site and guidelines for students' learning on placement. Interprofessional working had been articulated as a guiding principle for all, but patients were often managed in parallel by different professions at the same time with no coordination or communication. Patients and their families became fatigued when different sets of students would visit them several times a day or week. Moreover, the evaluation highlighted misunderstanding and tension between students from the different professions.

Following an international literature review, faculty met to plan an interprofessional programme for students to share practice in the community with identified patients and families working to common guidelines included in students' orientation before going on placement. Each profession could recommend a patient as a possible candidate for collaborative practice to be subject to the guidelines. The student who first saw that patient or family would discuss the case, facilitated by a teacher, with fellow students from other professions. As a team, they would then assess the patients and families problems, formulate goals with them and possible interventions before assigning roles. The team then selected one from a number of patients or families to be included in the program as their case, obtaining informed consent, working towards the agreed goals, meeting regularly and charting progress. The evaluation found that students who participated appreciated better how other professions approached problem-solving and complemented each other in working for a common goal.

Paterno *et al.*, 2014.

The "Family Health League" extension project in Ceará (Brazil) is integrating teaching for community service into the National Health System from the perspective of communicative and participative management. Some of the challenges that this project is trying to answer are: the cultural gap between health care workers and the population served; the shift from individual to collective collaboration; and overcoming authoritarian styles of management. One of the pedagogic programs being developed will integrate local popular culture with technical health content, bringing together theory and practice and mediated through interprofessional and multiprofessional teams made up of students, practising professionals and lecturers. The professions involved in the groups will be doctors, nurses, dentists, social workers, educators, nursing assistants, health agents and community leaders. The aim is to adapt health care to the social reality and local necessities of the population.

Cuhna *et al.*, 2012.

4. Redeploying the workforce

Governments have promoted 'common learning' or 'core curricula' across pre-qualifying health and social care courses to establish shared competency based outcomes. This has the aim of facilitating flexible deployment of personnel in response to demand and career progression, lessening the need for additional professional education. The argument is extended to include such education for new professions, e.g. physician assistants, obviating the need to design and deliver separate programmes, such as in the UK (DH, 2000, 2001 and 2004) and Norway (NOU 1972 and 1986).

Several programmes in Spain aim to provide common training for all health professions. One example is the Unidades Docentes Multiprofesionales (UDM). In 2011 there were 30 UDM certified in Madrid, in paediatrics (13), mental health (9), primary care (7) and gerontology (1). Other regions have also created their own units, like the Unidad de Formación en Atención Primaria from Cantabria.

(BOE 21st February RD 183/2008)(Estrategia Atención Primaria 2012-2015, Servicio Cántabro de Salud).

Such programmes are more accurately designated as multiprofessional rather than interprofessional. Problems can arise where the two are combined to generate not only a more flexible workforce, but also a more collaborative one. Interactive learning to value and understand each other is put at risk and small group teaching undermined. The professions may be forgiven if they fear that respect for their distinctive identities and expertise is being devalued, diminished and diluted. That problem is exacerbated when the arguments infer that specialisation is restrictive practice motivated by collective self-interest rather than the needs of patients. IPE and common learning are uneasy bedfellows. Nevertheless, pressure remains in many countries to restructure the workforce through IPE while also cultivating collaborative practice among professions with more or less stable boundaries.

5. Safeguarding the patient

Compelling though the case is for deploying personnel more flexibly, it is in tension with that to ensure that the requisite competencies exist to ensure patient safety subject to regulation and protection of title. Pressure following major reports in the United States (Kohn et al., 2000), the UK (Kennedy, 2001; Francis, 2013) and Spain (Aranaz, 2006) to address patient safety during IPE reasserts the need to respect and reinforce the roles and expertise of each profession. The safety of the patient is paramount, but reducing errors decreased litigation and costly compensation.

The WHO has published a Multi-professional Patient Safety Curriculum Guide designed to be used flexibly in whole or part in existing curricula for undergraduate and postgraduate education for health-care professionals. Topic-based, it accommodates different educational approaches. Part A provides practical support and guidance to educators on how to deliver the eleven patient safety topics described in Part B. The Guide may well help towards introducing patient safety into interprofessional learning (WHO, 2011).

Norway was one of the first countries to pilot simulation training in IPE to improve patient safety. Four teams, each comprising one medical, nursing and intensive nursing student, were exposed to simulation scenarios based on narrative collected from students' experiences of adverse events regarding blood transfusion, resuscitation, management of central venous catheters and administration of drugs. Short videos for each of these were presented (after being piloted on other medical and nursing students). The student teams then went into simulation training based on the videos followed by discussion about their own communication, co-operation and leadership, which was also videoed to facilitate reflection. Feedback from focus groups found the students satisfied and wanting more such training.

Kyrkjebø *et al.*, 2006.

6. Promoting public health

IPE has been invoked to prepare doctors, nurses and others to lead health education campaigns, e.g. anti-smoking, anti-obesity and keep fit, in primary and secondary schools, primary care centres and elsewhere. Successfully implemented, such campaigns improve personal and community health with less frequent recourse to health services.

The Health Education Authority ran 18 two-day workshops for primary health care teams throughout England. A minimum of three colleagues from each team included general practitioners and their trainees, nurses, health visitors, practice managers, administrators, secretaries and others. Each group came with its own prevention or health promotion project to be developed subsequently in its primary care teams. Tutors helped teams establish their base line, locate target audiences, identify inhibiting and facilitating factors and devise means of evaluation. Learning was participative, collaborative, reflective and exploratory. Problem solving was used to develop teamwork. Follow-up meetings reinforced implementation and provided opportunities for feedback. The programme evaluator concluded that the workshops had provided a robust and flexible framework. Participants appreciated opportunities to review practice and make plans. Communication, teamwork and organisation improved, while roles and responsibilities were clarified.

Spratley, 1990.

Whereas public health in richer countries tends to be equated with health education and individual behaviour, in poorer countries it tends to be equated with public works, for example, to provide clean water or tackle environmental pollution. IPE takes on a different complexion for a different configuration of professionals and non-professionals, including community leaders, engineers and planners.

VI. SUMMARY AND CONCLUSION

Better care, better health and lower cost: the first two were written into the objectives for IPE from the beginning. The third is now being added in response to the exponential rise in the cost of health driven by medical advances, consumer expectations and the needs of ageing populations in wealthier countries on the one hand and to help make health care affordable in poorer countries on the other hand. Where rich countries need to contain or cut health care costs, poor countries need to invest more money more economically. Heaven forefend that arguments originating in the wealthier countries should be misconstrued in poorer countries lessening their resolve to invest more to tackle their healthcare deficit.

We have drawn attention to relatively inexpensive types of IPE while suggesting how costs for the more ambitious types can be contained. We have argued that the more significant savings lie in reducing demand for health care. Invest first: rewards later!

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AN EXPLORATORY ANALYSIS OF WAGES AND JOB STABILITY FOR LONG-TERM CARE WORK IN EUROPE¹

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Carlos RODRÍGUEZ-LLUESMA

Sebastián LAVEZZOLO

I. INTRODUCTION

While the debate on the labor market's operational effectiveness has traditionally focused on the direct implications for employment levels, employment quality outcomes are attracting increasing attention (ILO, 1999; European Commission, 2001; Sehnbruch, 2004; Davoine and Erhel, 2006). Several classification criteria are relevant in this respect. For example, jobs can be classified in terms of wage levels not always ascribable to marginal productivity differentials (Krueger and Summers, 1987, 1988). They can also be grouped into 'good' and 'bad' types based on, among other criteria, the social status bestowed on the worker or the pleasantness of its execution (Acemoglu, 2001), or they can be categorized according to non-pecuniary aspects related with the quality of work such as safety, degree of security or regularity of rest periods (Gautié and Smith, 2010).

An extensive research stream in health economics focuses on the financing and delivery of long term care services (henceforth LTC), yet little is known about the quality of the jobs in this sector. In this paper we examine the market for LTC, traditionally considered to be low-wage and poor-quality jobs, which is expected to grow steadily in the next decades due to a significant increase of the share of chronically ill and elderly citizens in the total population. Specifically, we first analyze whether two critical dimensions of quality of LTC jobs –wages and job stability– perform poorly, and, second, how human capital explanations fit the findings across European countries. Addressing these issues should help illuminate alternative policy solutions for the potential shortcomings affecting this important sector for society, particularly those related to a likely workforce shortage and, hence, with the deterioration of the quality in the provision of LTC services. To conduct our exploratory analysis, we use data on 20 countries over the past two decades from the *European Labour Survey* (EU-LFS).

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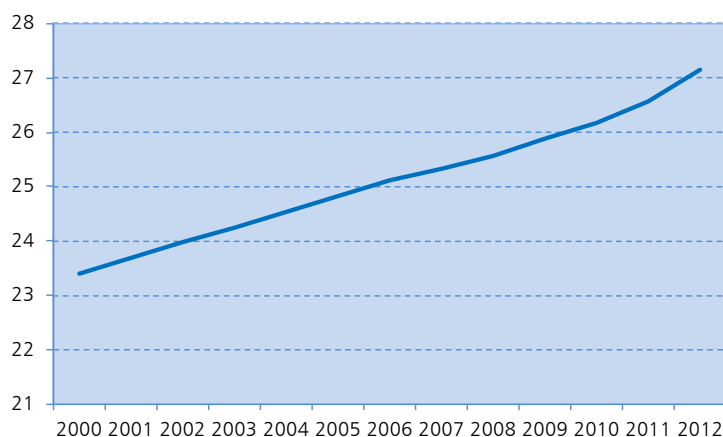
II. LONG-TERM CARE WORK

Demographic changes, growing demand for higher quality healthcare and social transformations are making LTC one of the most dynamic sectors in advanced economies. According to the OECD (2011), LTC services consist of those activities implemented in order to provide long-term care to individuals who need help with basic or instrumental activities of daily living. This economic sector is expected to increase its weight within the European Union's GDP from 1.8% to 3.4% between 2010 and 2060 (European Commission, 2011), which is consistent with a solid trend of an ageing population in the European countries. As illustrated in Figure 1, the dependency ratio of old people (+65) has steadily increased during the last decade.

In the wake of such development, a host of studies have examined how best to finance and deliver LTC services (Costa-Font *et al.*, 2012). Another set of studies by international organizations (European Commission, 2009; Fujisawa and Colombo, 2009; OECD, 2011) and university-based scholars (Dawson and Surpin, 2000, and Hackmann, 2009, among others) have called our attention to possible LTC workforce shortages in the next decades resulting from a mismatch between an increasing demand and a stagnant supply. Although little is yet known about the lack of equilibrium between demand and supply in this industry, the consequences might be dire, including a deterioration in the

FIGURE 1

**EVOLUTION OF OLD (65+) DEPENDENCY RATIO (15-65),
% IN THE EUROPEAN UNION (27)**



Source: OECD.Stat.

provision of care, unsatisfactory physical conditions for assisted persons (Castle and Engborg, 2005) and higher recruiting costs for the firms and institutions operating in the sector (Saavey, 2004).

Largely an informal occupation, when formal contracts do exist, LTC jobs are often precarious and poorly compensated. Consequently, an increase in the retention rate of LTC workers may need to be addressed in other ways. LTC occupations might be perceived as unattractive because care work involves physically- and mentally-taxing tasks, as well as challenging work shifts/schedules (Stone, 2001). These work features might be predictors of dissatisfaction (Delp *et al.*, 2010) and they might partially account for high rates of turnover and short periods of employment, i.e. the low job stability often observed in the sector (see Castle and Engberg, 2005; Hussein *et al.*, 2010; Olson, 2010). As a result, low job stability means short job duration expectations, and these, in turn, might translate into poor skill development, low wage increases through tenure and limited access to employer-based benefits (e.g., pension plans or training). In short, low job stability, job attractiveness and quality are linked.

Thus, we attempt to describe the degree of quality experienced in LTC jobs by assessing the information contained in the EU-LFS data. Specifically, we observe two dimensions of employment quality: compensation and turnover, which is approximated by employment duration spells. We present some figures about LTC employment levels to describe the setting.

III. DATA

The *European Union Labour Force Survey* is a large rotating, random sample survey representing the population in private households in 30 European countries. The national statistical institutes are responsible for collecting the data, which are then centrally processed by Eurostat. Although data exists starting in 1983, availability for individual countries depends on their EU accession date. The EU-LFS provides quarterly and yearly variables concerning labor participation for individuals, aged 15 and over, as well as for those outside the labor force. EU-LFS variables include demographic background, labor status information, occupation and employment characteristics, as well as job and unemployment tenure.²

At best, the LTC jobs definition presented earlier is general and needs to be narrowed down in order to proceed with empirical analysis. Following Geerts

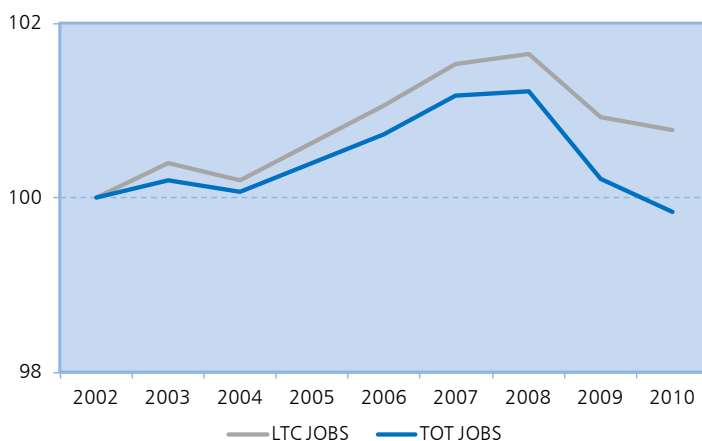
² In the EU-LFS, tenure variables are derived from information collected on the month and year in which the person started (ended) working and provide time values in months.

(2011), we classify LTC workers on the basis of their International Standard Classification of Occupations (ISCO-88) codes. We consider an LTC worker to be an employed individual whose job occupation is included in one of the following four ISCO-88 categories: 513, 323, 346 and 913. The first two are defined as Personal care and related workers, and Nursing and midwifery associate professionals, respectively. Given the high variety of LTC occupations, several workers are not included within these definitions. For example, Social work associate professionals (ISCO-88 346) and Domestic and related helpers, cleaners and launderers (ISCO-88 913) were considered too.

We tighten the selection criteria further by adding a filter for economic activities on the basis of the Statistical Classification of Economic Activities in the European Community (NACE) codes. We exclusively selected those individuals whose economic activities corresponded to NACE Rev.1 codes: N, L and P. NACE rev. 2 code Q is defined as Human health and social work activities; code O corresponds to Public administration and defense; compulsory social security and code T represents Activities of households as employers; undifferentiated goods- and services- producing activities of households for personal use. As a result of this classification, we estimate that LTC workers in the formal economy make up around 3% of the employed population in Europe, although a large portion of elderly care is provided by informal caregivers (Bolin *et al.*, 2008; Van Houtven and Norton. 2004). These numbers also confirm that employment in the European LTC sector has recently been growing, showing higher resilience

FIGURE 2

THE EVOLUTION OF TOTAL EMPLOYMENT AND LTC-RELATED JOBS IN 25 EUROPEAN COUNTRIES, 2002-2010



Source: EU-LFS.

in the context of the present economic crisis than the overall employment rate (see Figure 2).

IV. LTC WORKERS' COMPENSATION AND TENURE

We looked at the distribution of LTC workers across compensation deciles for 20 countries in 2011 and compared them with the whole workforce sample distribution within each country.³ We observed that LTC income distribution is clearly left-skewed: most LTC jobs are concentrated in the lowest deciles of the salary scale. This pattern occurs across all countries in Europe. Nevertheless, when observed in detail, distributions vary widely. A consistent group of countries' mode (9 out of 20) is decile 1 (Belgium, Cyprus, France, Greece, Italy, Portugal, Luxemburg, Romania and Slovakia), while in 8 cases the mode falls under deciles 2 and 3 (Switzerland, Germany, Denmark, Ireland, United Kingdom, Netherlands, Latvia and Estonia); finally, the mode of LTC workers' income mode are deciles 4 and 5 in 3 countries (Finland, Hungary and Lithuania). In sum, compensation data indicate that LTC consists of low-paid jobs all across Europe; however, the situation seems to vary notably from one country to another. LTC jobs provide low-end incomes in some countries, and close to the median income in others.

Concerning the length of employment, we aim to determine whether it is consistently shorter in LTC occupations than in other comparable occupations. Since jobs of high and low quality are expected to present different turnover rates (lower and higher respectively), consistently shorter employment periods in LTC would suggest that these occupations fall under the latter category. A visual analysis of the retention data indicates that retention rates stabilize around a long-term trend at approximately five years of tenure. Thus, we use the five-year mark as a threshold for employment length.

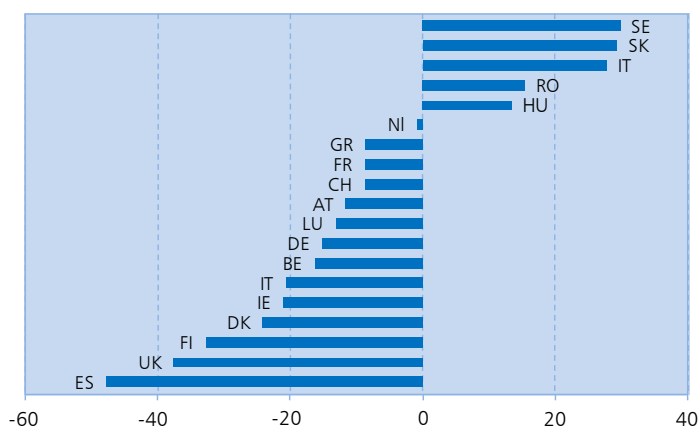
By means of binary logistic regressions analysis, we further investigate the odds of the typical worker experiencing an employment period of five or more years as a linear combination of demographic, professional and skill-set characteristics.⁴ A regression is calculated separately for each country for a total combined sample of 1,236.799 observations, although sample sizes vary considerably according with country labor force survey's size (ranging approximately from 7,000 for Luxembourg to 180,000 for Italy and France).

³ Descriptive statistics reports are available upon request.

⁴ Demographic variables include age, sex, marital status, number of persons living in the household, country of birth, and degree of urbanisation. Professional variables include professional status, firm size, full-time or part-time, shift work, hours worked usually, and inclination to work more. Skill variables include the highest level of education attained.

FIGURE 3

**CONDITIONAL PROBABILITY OF MAINTAINING THE SAME JOB FOR 5 YEARS,
LTC WORKERS WITH RESPECT TO ALL WORKERS
(PERCENTAGE)**



Source: EU-LFS.

Including a binary variable indicating whether an individual is an LTC worker allows us to evaluate its effect on the odds of having been working in the same job for over five years. We run regressions for 19 countries using 2011 data. The estimated effects for an average LTC worker appear in Figure 3. In most countries, the odds of maintaining the job for more than five years is lower for LTC than for an average worker (from 1% less in the Netherlands to 48% less in Spain). Again, we observe that the effect varies widely across countries. In a few European countries, LTC workers have an even higher likelihood of maintaining their job over the long run than the rest of the workforce.⁵

This preliminary descriptive analysis on wages and job stability illustrates some key dimensions concerning the quality of LTC jobs in Europe. Working in LTC is associated with low salaries and job stability (i.e. maintaining the job over a five-year period with respect to the typical worker). Nevertheless, notable international differences exist. The extent of the wage differential between LTC and an average worker varies consistently across countries and so do employment period differentials. Thus, in some countries, LTC work could not be labeled as distinctly low-quality. More interestingly, although LTC jobs are in general low-paid occupations, they are not always correlated with short tenures, at least at the aggregate national level.

⁵ Detailed regression outcomes are available upon request.

What factors can explain these cross-national differences? Traditionally, the literature has focused on two main aspects: human-capital factors and labor market institutions. Given the nature of our data, we focus our exploratory analysis on the former.

V. HUMAN CAPITAL AS A POTENTIAL EXPLANATION

Skill composition could play a role in explaining differences in LTC work across Europe in our study. Nickell and Bell (1996), Freeman and Schettkat (2001) as well as Oesch and Rodríguez-Menés (2010) explain cross-country variation of occupational change between high and low wages by the differences in the evolution and characteristics of labor supply. Firms' production techniques and personnel composition depend on the availability of input factors, among which workforce skills play a major role. An increase in the level of workforce human capital quality (i.e., skills) should intensify firms' investment on high wages and high quality jobs.

Does this argument apply to the LTC industry? The quality of LTC jobs –and therefore employment duration– could relate to workers' skills. These differences between properly skilled and not-properly skilled LTC workers at the international level could explain part of the observed international heterogeneity: countries where we observed higher continuation probabilities should be those with a better match between job needs and workers' ability.

We explore this hypothesis first by observing the distribution of workers' skills, with educational attainment serving as proxy for skill levels. Within the EU-LFS, information about the educational attainment of individuals is organized according to the International Standard Classification of Education (ISCED) classification, as designed by UNESCO (OECD, 1999). The variable ranges from 1 (primary level of education) to 6 (second stage of tertiary education). Here, the educational attainment distribution of LTC workers is observed in each country and compared with the distribution of the total population.

Figures in Appendix 1 show that ISCED level 3 (upper-secondary education) is the most common educational attainment for LTC workers. In most countries, the share of workers with upper-secondary education is larger in LTC than in the total population. This suggests that the skills needed to properly perform care-related tasks are gained through upper-secondary education or that such is the minimum required educational level to be hired into care occupations. The difference between the share of workers with this level of education in LTC relative to the total population is particularly high in countries where we

previously observed a higher quality of LTC jobs, as measured by the conditional probability of maintaining the same job for larger periods (e.g. Sweden, Slovakia or Lithuania). In these countries, the LTC skill distribution peaks around this value (ISCED level 3), whereas in other countries the distribution is more even and left-skewed.

To further understand the role of skills on the compensation of LTC workers, Figure 4 presents the distribution of *low-skilled* LTC workers across compensation deciles for 20 countries in 2011 and compares them with the entire *low-skilled* workforce sample distribution within each country. *Low-skilled* workers are defined as workers with, at most, lower secondary education (up to ISCED97 educational level 2), which corresponds to the skill levels of a large share of LTC workers. As mentioned earlier, most LTC jobs held by *low-skilled* workers are concentrated in the lowest deciles of the salary scale. Nevertheless, it is worth noting that the income distribution is more left skewed than one might expect when controlling for skill level. LTC jobs concentrate more around the low deciles of the distribution and less in the high deciles than the rest of *low-skilled* jobs: when compared with workers of the same skill level, LTC workers seem to suffer a wage-gap. This pattern occurs across all countries in Europe. Nevertheless, when observed in detail, distributions vary. In the Netherlands, Denmark, Lithuania, Latvia and in the United Kingdom, the income distributions of LTC workers seem to concentrate consistently around deciles 2 and/or 3. In sum, LTC jobs provide low-end incomes in most countries, save the exceptions mentioned earlier. Yet, even when observing the income distribution of low-skill workers exclusively, a LTC-specific wage gap arises.

FIGURE 4

MONTHLY (TAKE-HOME) PAY FROM MAIN JOB DECILES DISTRIBUTION OF LOW-SKILLED WORKERS (ISCED97 EDUCATION LEVELS UP TO 2) IN SOME EUROPEAN COUNTRIES, BY COUNTRY, 2011 (FOR ILLUSTRATION PURPOSES ONLY)

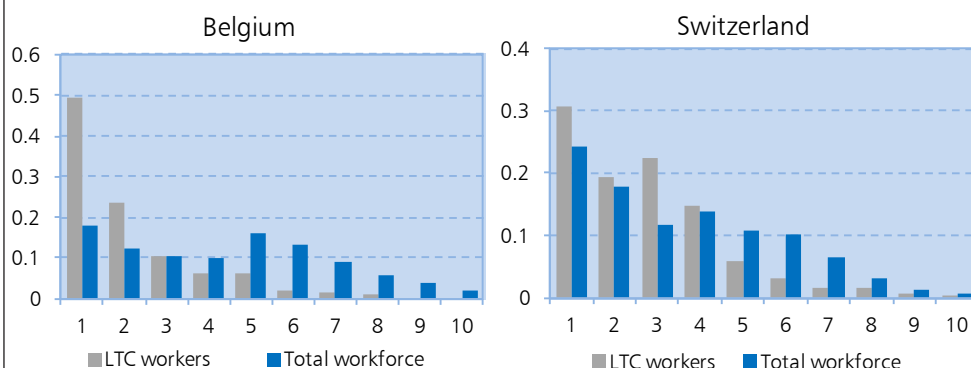


FIGURE 4 (continued)

MONTHLY (TAKE-HOME) PAY FROM MAIN JOB DECILES DISTRIBUTION OF LOW-SKILLED WORKERS (ISCED97 EDUCATION LEVELS UP TO 2) IN SOME EUROPEAN COUNTRIES, BY COUNTRY, 2011 (FOR ILLUSTRATION PURPOSES ONLY)

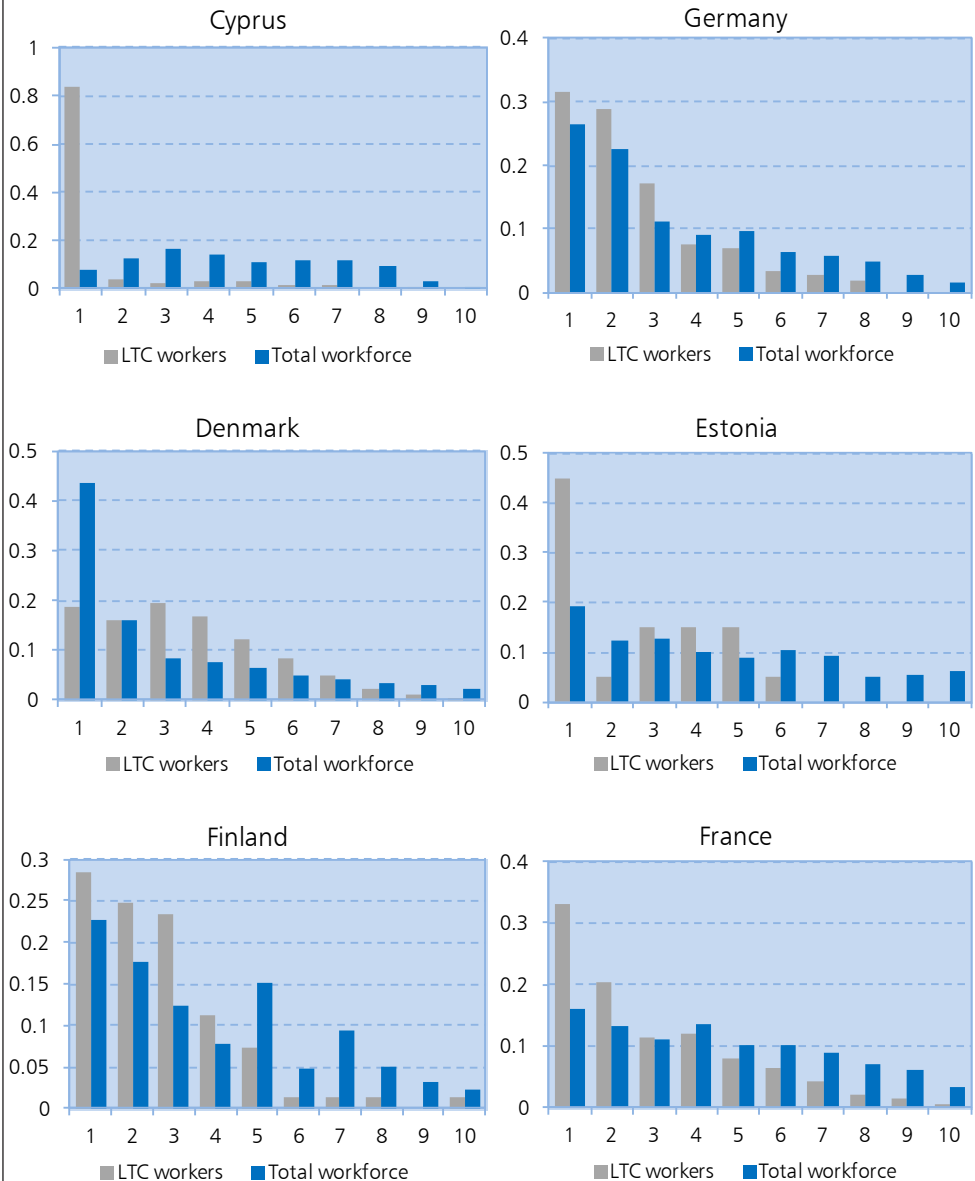


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MONTHLY (TAKE-HOME) PAY FROM MAIN JOB DECILES DISTRIBUTION OF LOW-SKILLED WORKERS (ISCED97 EDUCATION LEVELS UP TO 2) IN SOME EUROPEAN COUNTRIES, BY COUNTRY, 2011 (FOR ILLUSTRATION PURPOSES ONLY)

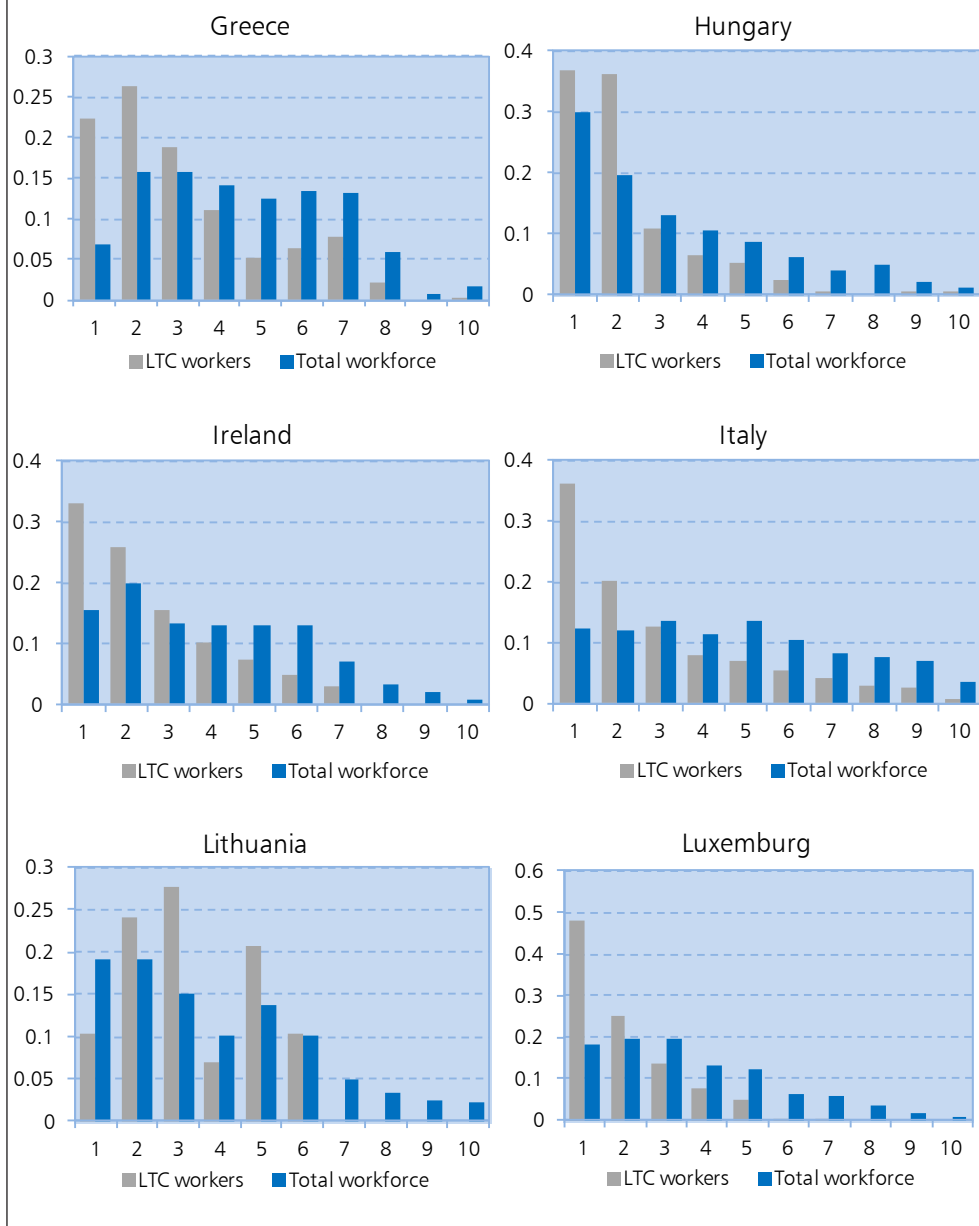
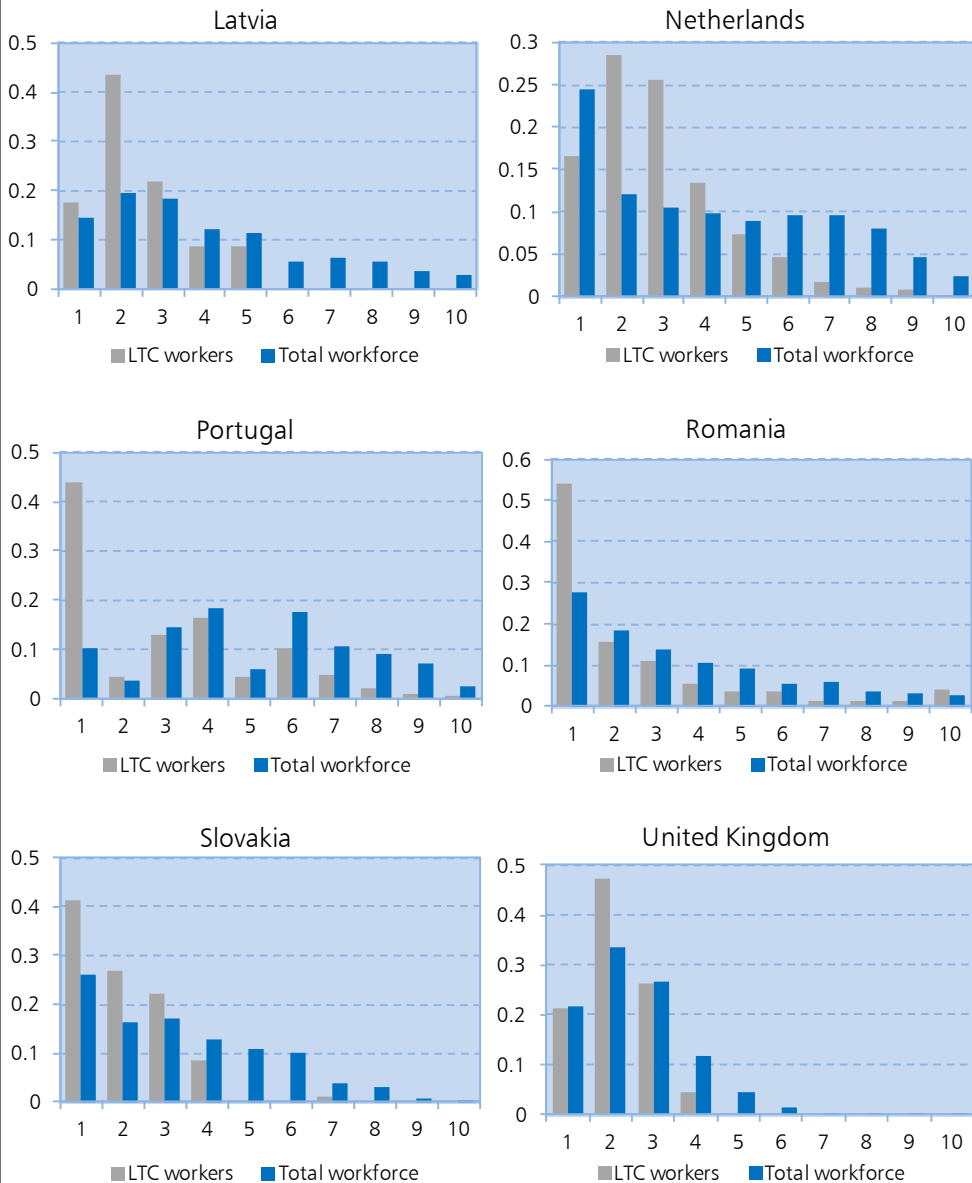


FIGURE 4 (continued)

MONTHLY (TAKE-HOME) PAY FROM MAIN JOB DECILES DISTRIBUTION OF LOW-SKILLED WORKERS (ISCED97 EDUCATION LEVELS UP TO 2) IN SOME EUROPEAN COUNTRIES, BY COUNTRY, 2011 (FOR ILLUSTRATION PURPOSES ONLY)



Source: EU-LFS.

These findings suggest that although skill levels can help explain part of the LTC job quality puzzle, this is clearly not the full story. Additional work remains to be done in order to understand the reasons behind this sector's low tenure and wages. An important consideration might be the role of labor market institutions. Extant research indicates that institutions do matter. One of the most ambitious comparative projects in this field (Goutié and Smith, 2010) asserts that the most important influence on the observed differences in low-wage work is the inclusiveness of a country's labor market institutions. For these authors, inclusiveness increases as formal and informal mechanisms in the system extend the wages, benefits and working conditions negotiated by workers in industries and occupations with strong bargaining power to workers in industries and occupations with less bargaining power. However, when looking at the distribution of minimum wages across countries in our dataset, for instance, we find that this picture barely fits the distribution of compensation and job stability for LTC workers described earlier (see figures 3 and 4), although for some countries the match goes in the right direction.

VI. CONCLUSIONS

Demographic changes, growing demand for higher quality healthcare and social transformations are making long-term care services one of the most dynamic sectors in advanced economies. According to the European Commission, the LTC sector is expected to double its weight within the European Union GDP in the next five decades. However, in upcoming years a growing demand for LTC services and workers in Europe might face a stagnant supply. This mismatch is expected to provoke a shortage of workers and a consequent decline of the quality in the provision of care services, in part because wage increases are not likely in an environment of private and public financial constraints.

Since the stagnation of LTC supply is usually attributed to poor working conditions, we analyze two critical dimensions of employment quality –worker's wages and job stability– using the *European Union Labor Force Survey*. Our descriptive analyses confirm that LTC jobs fall under the classification of low-wage/low-quality work, but to different extents across European countries. In addition, we examine this cross-country description of LTC in Europe in light of the differences in the skill match between the demand and the supply of workers. The findings suggest that LTC workers experience low wages even relative to comparably low-skill workers in other sectors of the economy. This human capital explanation needs to be studied further, as well as other labor market explanations that might account for differences across countries. Still, these exploratory findings already advance novel information about the precariousness of LTC job quality.

In order to face the upcoming social, political and economic challenges in this sector, studying the causes and consequences of LTC work quality might fruitfully be addressed from a multidisciplinary perspective, with the aim of providing conceptual and empirical evidence to further the debate among policy makers. The quality of LTC services in the future may depend on a good understanding of its past and current dynamics, as well as future trends. Addressing these explanations might shed light on how to find effective solutions to a sector poised to make a positive contribution to the economy and employment, while ethically serving the needs of European senior citizens.

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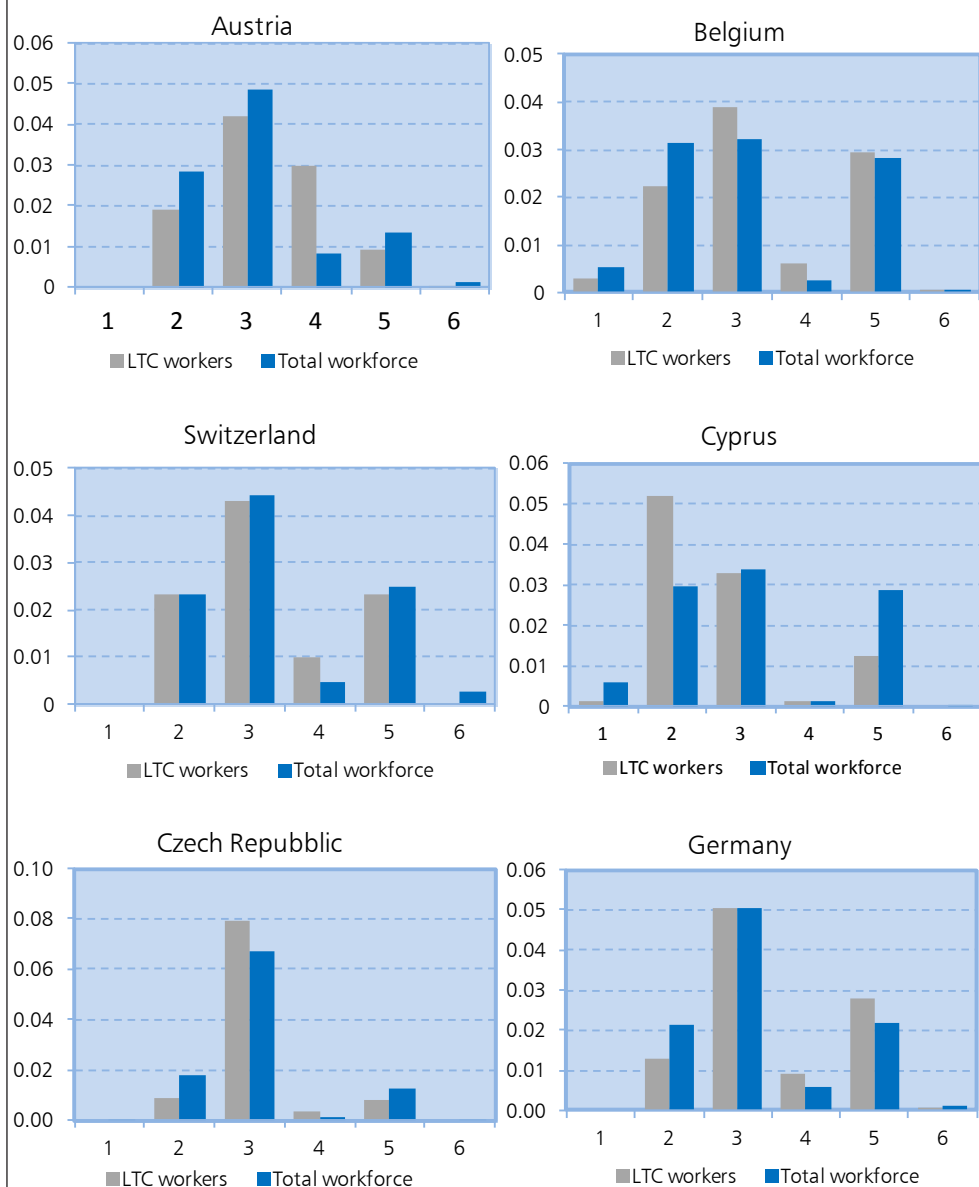
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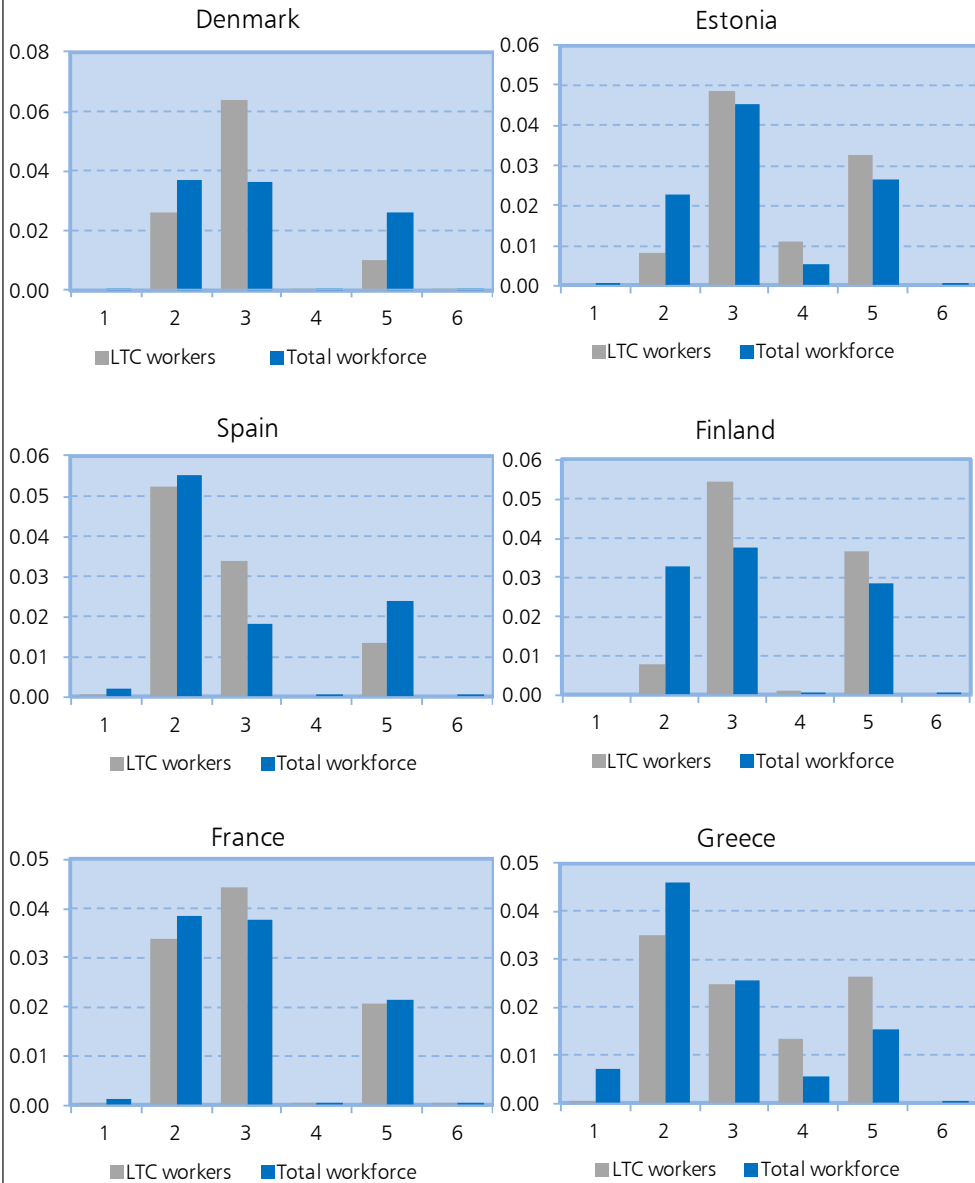
APPENDIX 1

WORKERS' SKILLS DISTRIBUTION (ISCED97) IN SOME EUROPEAN COUNTRIES, BY COUNTRY, 2011



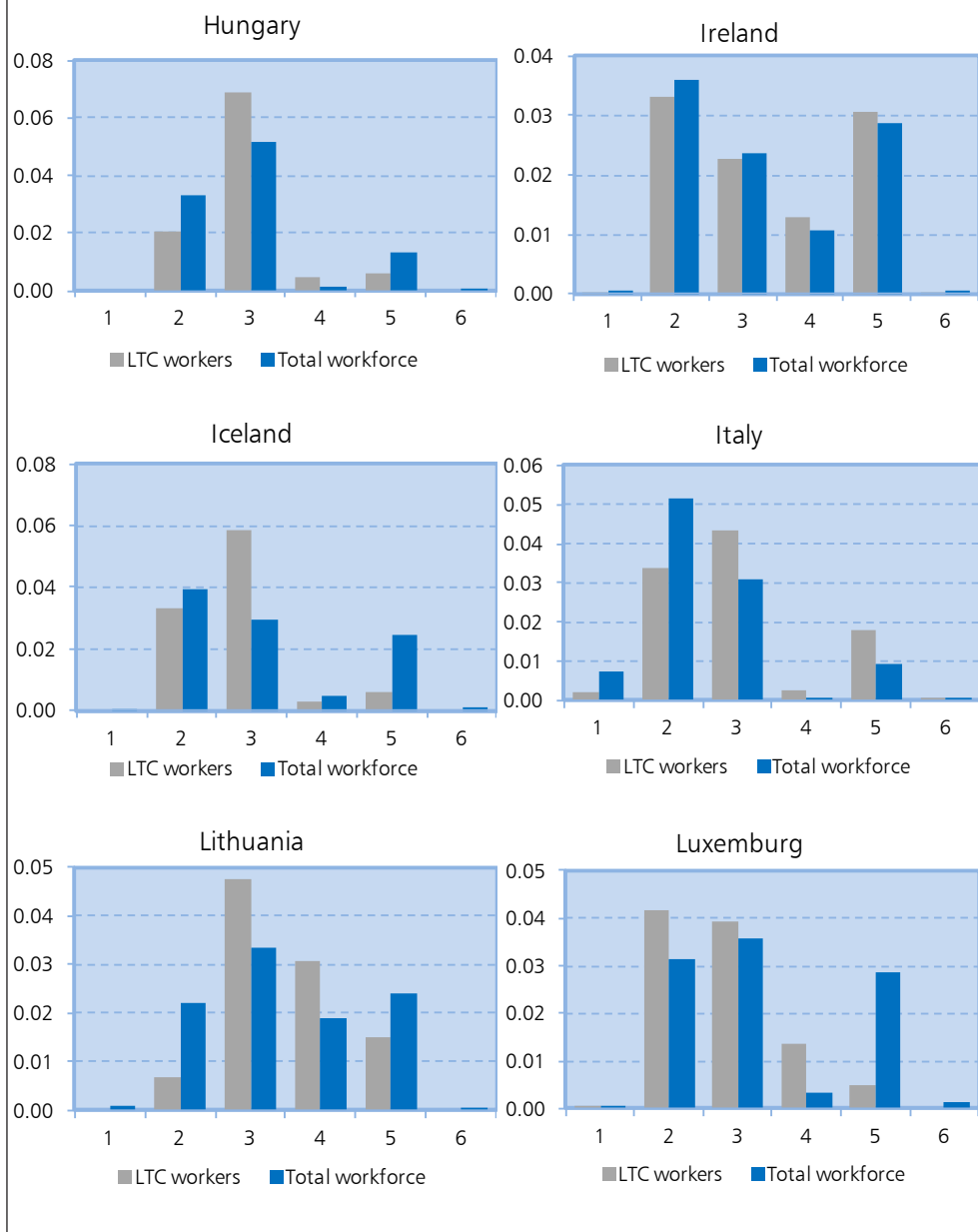
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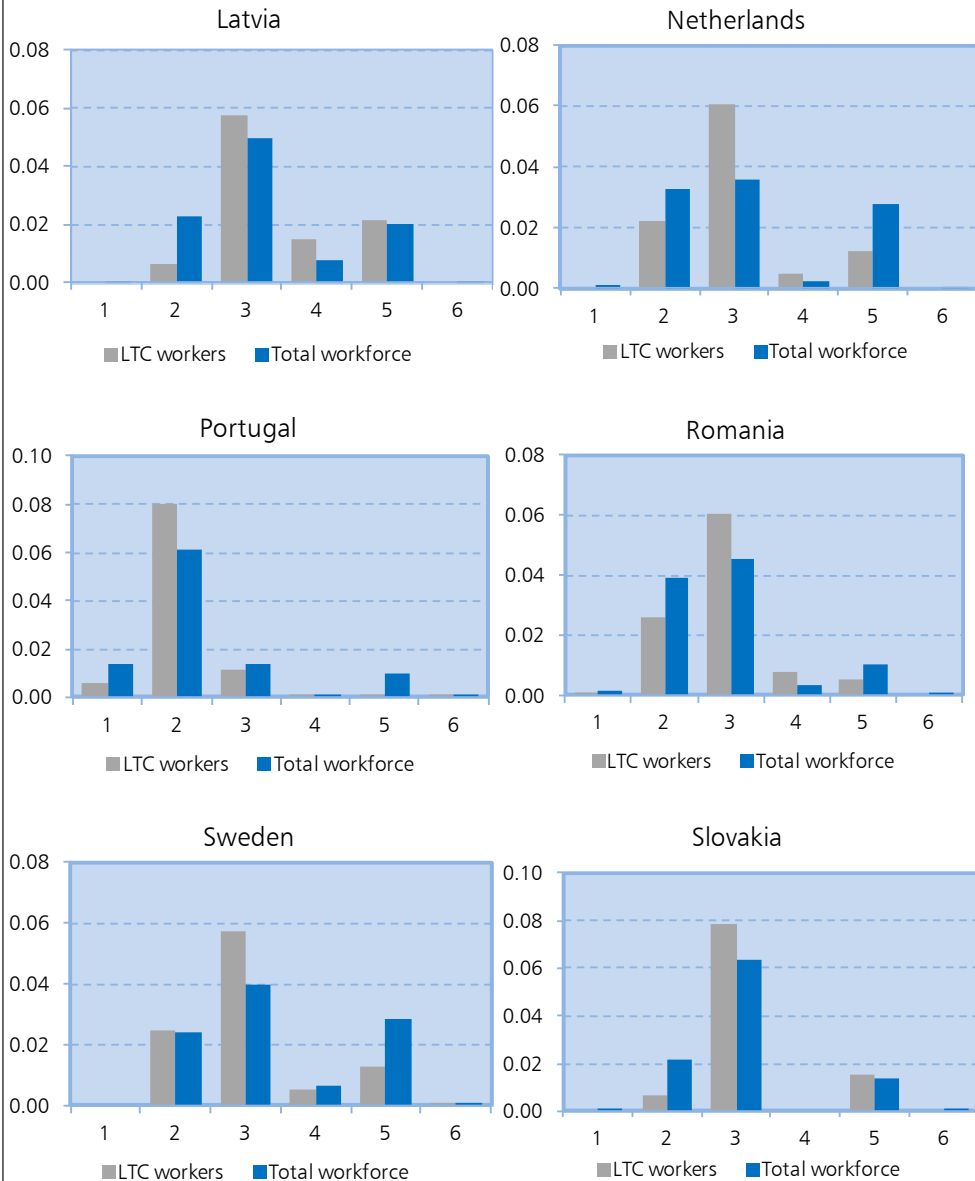
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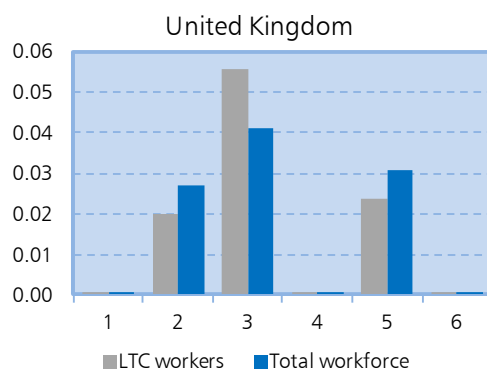
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