Economic Value as a guide to invest in Health and Care

Concept Framework

New thinking on the value of investing in Health and Care

ADVANCEMENT OF THE VALUE CONCEPT

VALUE = OUTCOMES + ECONOMIC VALUE

Introduction

European health systems are under pressure from many angles. To secure the future of the European model with universal coverage and equal access for the population it will be crucial for decision-makers to move towards having better knowledge of how health influences the socioeconomic environment. This will enable them to make the most economically advantageous choices in order to maximise the value of the investments in health and care[1]. This thinking is akin to that captured in the European Commission's "Investing in Health" staff working document, published as part of the "Social Investment Package"[2]. This complements the EU Commission Communication "Towards Social Investment for Growth and Cohesion" by showing how investing in health contributes to the Europe 2020 objectives of smart, sustainable and inclusive growth[3].

How do we think about economic value in health and care?

[1] In this paper we will generally look at the whole health system – the whole healthcare pathway: staying in good health, addressing risk factors, prevention of disease onset and progression, treatment and management via primary care, ambulatory, in-hospital care, community care and home care.

[2] For an overview of thee Social Investment Package, see for example http://ec.europa.eu/social/main.jsp?catId=1044&langId=en&newsId=1807&moreDocuments=yes&tableName=news

[3] http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/index_en.htm

To focus on economic thinking, and on obtaining the most economically advantageous investments, is a way to ensure that health spending provides the best value for money and return on the investments made in health and care in the coming years.

This is also clearly underlined in the thinking behind the revised EU public procurement directive, which already provides an excellent policy instrument to support implementation of the principle of maximising the economic value of healthcare systems while maximizing the outcomes.

The aim of this paper is to take the discussion about health and its value as well as the economics associated with health and healthcare delivery into this new territory by defining "economic value" from a policy perspective. Firstly, we must ensure that we look beyond the price of traditional acquisition and the cost/expense view of health, which mostly does not result in the best economic solution. Taking outcomes and economic value consideration (value = outcomes + economic value) together has the potential to provide a fuller picture of the true value of health and care. It offers a more solid foundation for making decisions about directing healthcare expenditures in a manner that can contribute to delivering the most economically advantageous results in health and care for the benefit of the patients and EU citizens, for the health system, for society and for the economies as a whole.

New tools that put value at the heart of social and economic thinking in Europe

The framework and practical tool " MEAT Value Based Procurement"– a method conforming with the EU public procurement directive – implements the principle of Most Economically Advantageous Tendering (MEAT) in Healthcare enabling Europe's policy objectives to become a reality. It defines and compiles the full value - outcomes and economic value- that health and care offer from different perspectives (patient, healthcare institutions, health system, society and the economy), and it focusses on value-based healthcare ensuring Europe's citizens to be in good health and steering to more sustainable healthcare. More concretely MEAT Value Based Procurement includes different value considerations such as health outcomes of relevance to the patient, lifecycle cost of care delivery, and also include other benefits to key stakeholders as well as the broader impact on society and economy. It sets out a way forward to invest, measure and compare the total value offered to the various healthcare stakeholders, evaluated in economic terms. (See for example figure 1 in Annex).

Why do we now need sharpen how we think about value and economic value in healthcare?

The value of being in good health is more than the obvious benefits for the individual.

When EU citizens are in good health, they can also retain their socioeconomic status, and enabling them to be more socially and economically productive. This argument goes further than the patient being in good health themselves as it also will affect the growing need for social care in support of those economically active. Importantly, it has implications for the growing population of informal carers required to take care of children and older people not in good health. In addition, we must consider the economic consequences of informal carers not contributing directly to economic activity.

With all the challenges facing European health systems that will be described below, **Europe cannot – from both an economic, social and equity point of view – afford not to have its citizens in good health**.

Therefore, the issue is not so much the cost of having citizens in good health but rather the cost to the public finances and our whole economy (in addition to personal well-being) if they are **not** in good health. But as resources will be scarce, this must be achieved by maximising efficiency of the whole health system to ensure that we get the highest value for money. To achieve this, a value-driven healthcare system is needed and deeper thinking about economic value. The key is also to understand that there is no direct link between levels of spending and quality of outcomes and good health, and that spending should be seen more as an investment in good health – a pre-requisite for economic and social capacity and sustainability of health systems in Europe, rather than a mere cost. Investments in health and care should be guided by the economic value that can be delivered.

Value is not a new concept but it needs to include *economic* value

Previous work related to the value of health and care – for example as expressed in the work on value-based healthcare [4] and value-based decision making and innovation [5] which sought to define value as a basis for analysis – is further elaborated here. This paper aims to provide a more comprehensive view of the effects of health systems and health policies, with emphasis on "economic value" as the key factor for creating value by investing in health and care.

Good health and good health outcomes are of course important factors of value per se and important pre-requisites for enabling economic value. This paper will introduce a series of key components of economic value. These components are based on the well-known concepts of value-based health theories, namely that the value of health should be measured by what "you get for the money" – outcomes that matter to patients divided by the cost of care delivery. Achieving a gain in efficiency, avoiding waste and further ways to

[4] As pioneered by Michael E. Porter. See for example: http://www.nejm.org/doi/full/10.1056/NEJMp1011024

[5] As discussed by Chris Henshall and Tara Schuller in HEALTH TECHNOLOGY ASSESSMENT, VALUE-BASED DECISION MAKING, AND INNOVATION, International Journal of Technology Assessment in Health Care, 00:0 (2013), 1–7. Cambridge University Press 2013

reduce the cost of care delivery is a first element of economic value, but economic value is not limited to that. From that base, the paper will describe additional important economic considerations not only for the health system but taking the perspective of patient, carer, society and our economy into account to appreciate the full value of an investment in health and care. This includes new considerations on the economic value associated with the avoidance of the cost of not being in good health due to avoidance of onset and – most importantly – the avoidance of progression of chronic diseases. The latter has received very little consideration in the policy debate until now despite advanced chronic diseases taking up a very high part of public healthcare expenditure.

Good health as an economic asset

'Good health for all' supports economic growth as it enables citizens to be productive (socially and economically) contributors to the economy, and supports the wellbeing of citizens and society. As an economic consequence (often not considered in value) it avoids the costs of unnecessary time in hospitals, on sick-leave, in long-term care, or developing more advanced (and exponentially more costly) disease stages with restricted ability to work and to be socially active.

Good health will also make an important contribution to relieving citizens (both younger and while ageing) from having to deal with the economic and financial burden of healthcare, resulting in reduced income, lost independent, reliance on carers or isolation – all of which would see a deterioration in their socioeconomic status.

Chronic diseases (which account for 70% of healthcare budgets) provide many examples of where investment in health and care provides economic value at all levels. For example, treating diabetes type II in a timely manner (including with investment in the use of efficient technologies) brings enormous economic value compared to treating the illness in its later stages.

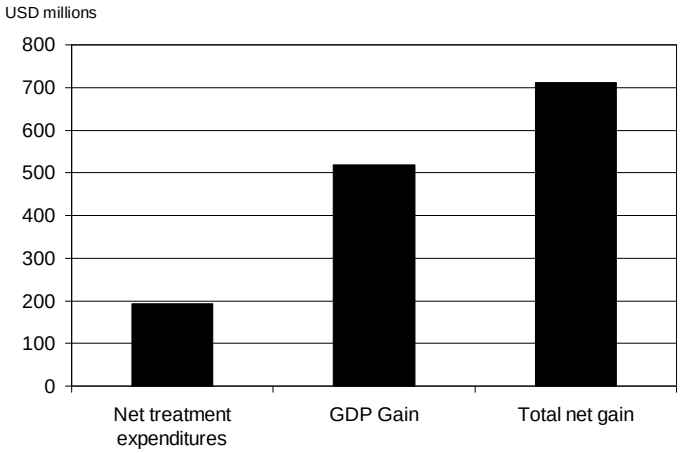
The effects are shown in a recent analysis from the US (see Figure 2). Similar positive trends have been reported in the UK by the Work Foundation[6] and in other European countries, and multiple projects are ongoing in different diseases areas. However, it is not (yet) considered in policy debates, in measures related to the value and performance of health systems, and/or in assessing the full value of investments made.

Another example is the economic consequences coming from treatment and – in the case of colorectal cancer – of screening. These costs are more than offset by gains in economic development as measured in the gain in GDP. In other words, the cost of treatment and

[6] Adding Value: The Economic and Societal Benefits of Medical Technology. www.workfoundation.com

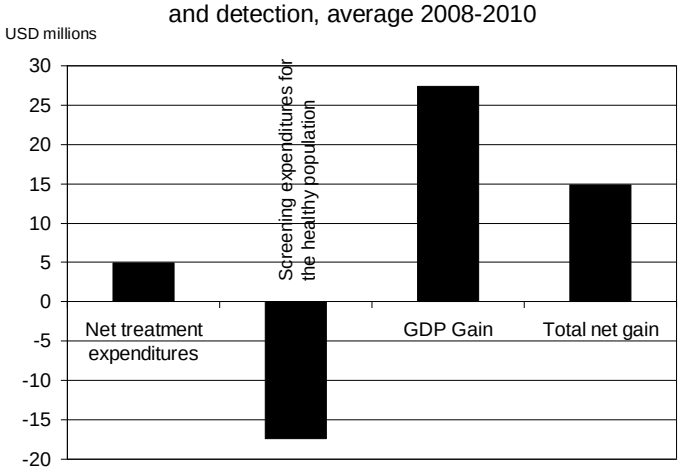
prevention has in reality been an investment, and the return on that investment is the gain for the whole economy – the GDP gain.

Economic effect associated with medical technology in diabetes, average 2008-2010



From the Milken Institute: Healthy Savings: Medical Technology and the Economic Burden of Disease.
The example from the US demonstrates mainly the effect of using insulin pumps, but is shown here to demonstrate the importance of the contribution to GDP compared to the treatment expenditures.

Economic effect associated with medical technology in colorectal cancer prevention and detection, average 2008-2010



From the Milken Institute: Healthy Savings: Medical Technology and the Economic Burden of Disease.
The example - also from the US – demonstrates that the costs of a screening process will be more than offset by the GDP gain to create a total positive gain for the total economy.

Figure 2

Good health should be defined as being in the optimal health condition with the ability to be socially and economically active, avoiding disability and advancement of chronic disease stages[7]. Good health does not necessarily mean perfect health, and often citizens are able to be fully socially and economically active even with, for example, early stages of chronic disease. The point here is to avoid the disease progression into stages that make social and economic activity impossible. After all, "health is a state of (complete) physical, mental and social well-being and not merely the absence of disease or infirmity,"[8] as defined by the WHO, but where realistically "complete" might have to be interpreted as "optimal" – the best possible under prevailing budget constraints.

[7] Se for example analysis in The Lancet on Disability adjusted life years.

The Lancet, Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010.

Three components of economic value

A more refined way of looking at this would be to include the full value of investment in health and care: improvement in health outcomes and providing economic value by three components – optimising operational costs of the healthcare system (a *gain in efficiency of healthcare delivery*), better socioeconomic *outcomes (a gain in social and economic status and capacity)* and, savings associated with preventing expenditure of onset and progression of disease *(a gain in need of healthcare delivery)*. These individual components are interlinked and as such further contribute positively to the overall value of health and care and the sustainability of healthcare systems.

1. Optimising operational cost – investing in efficiency of the healthcare system

The first important element to take into consideration from an economic perspective is the impact on the *operational cost of the healthcare system*. This sets the focus on proper investments in healthcare with the purpose of minimising unnecessary spending and waste. Efficient institutions play a role in avoiding prolonged treatment and re-hospitalisations caused by infections and complications; by operational measures, including avoiding duplication, obtaining increased productivity from healthcare providers, decreased administrative burden, etc. Part of the gain is savings in operational cost of the full system. However, equally important is the structural reform of the healthcare system with an increased role for community care, a seamless care pathway and pro-actively maintaining good health instead of aiming to regain health.

These considerations will probably be seen as controversial by many health professionals, but good administrative practices are as important as good clinical practices. Waste can occur in many ways. Health professionals often complain that the traditional focus on input and cost makes them spend too much of their professional life accounting for the way they spend their professional time. Incoherent linking between hospital care and community care can lead to unnecessary spending. And in general, waste within the whole health system seems too high to ignore. An Economic Paper written by João Medeiros and Christoph

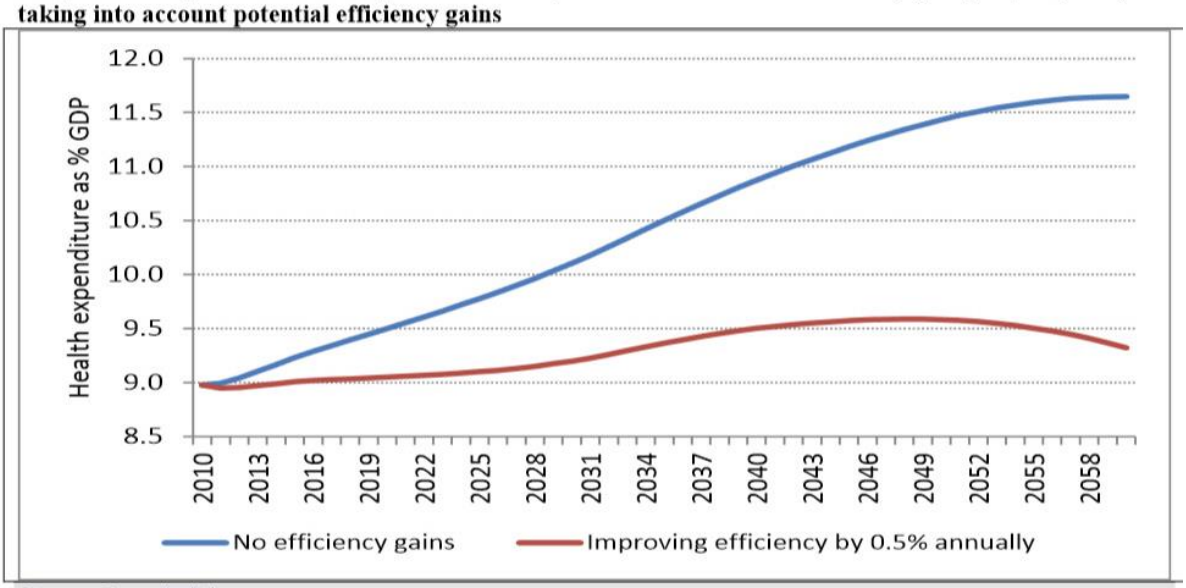
Schwierz in the Economics Directorate General of the European Commission[9] concludes that moving towards the most efficient way of running health systems – administratively and in clinical practices – could create savings of about one quarter of total health expenditures for the EU as a whole. At the same time life expectancy at birth in Europe could be increased by 2.3% or 1.8 years!

The report also identifies seven countries that come out on top according to most measurements of efficiency: Belgium, Cyprus, Spain, France, Italy, Sweden and the Netherlands. This underlines the usefulness of cross-border comparisons: Best practices do exist and could be copied in countries that are performing with less efficiency and are therefore wasting economic potential. These comparison should not be restricted to systems within Europe as novel ways to optimize efficiency are also developed internationally.

Perhaps most striking in this analysis is the fact that most of the expected large increases in health expenditures over the next decades – largely due to ageing in our societies – can be more or less offset by increasing efficiency by 0.5% annually. This means that if the health system follows best practices it can deliver the same quality output, and close the gap between growth in healthcare expenditure and economic growth, while coping with the effects of demographic change! This will help substantially to deal with rising demand, but will not in itself set extra funds free. But focussing more on the economic value of health could free up additional resources that can be used to invest in areas of healthcare with a high multiplication effect and thus contribute to faster growing economies.

[9] Efficiency estimates of health care systems in the EU, European Commission, Economic Papers 549 | June 2015

Graph 10 – Projected increase in public health expenditure in the EU until 2060 (Ageing Report, 2012) taking into account potential efficiency gains



Sources: Own calculations.
Notes: "No efficiency gains" – Projected increase in health expenditure according to Ageing Report (2012). "Improving efficiency by 0.5%" – Assumed projected increase in health expenditure according to Ageing Report, minus annual savings of 0.5% of 2010 expenditure levels due to efficiency gains. The 2012 Ageing Report uses only public health expenditure for expenditure projections. Therefore, in this calculation example we assume that annual savings of 0.5% apply to public health expenditure only.

Figure 3

Another important study on Community Healthcare in Europe[10] points to efficiency gains in a well-functioning health system with a smooth flow between in-patient hospital care and community care. This can be achieved without increasing re-hospitalisations or decreasing patient perceptions of quality of care. The study also looks into the potential of strengthening primary care as a way to ensure a more efficiently working system.

A recent study from the UK [11] shows that the NHS could save £5bn per year through minor reforms of the way staff and medicines are being used in addition to the introduction of more efficient processes and systems in general. This study is another practical example of how important a constant review of operational practices is. Given the pressures on health financing, it is obvious that European health systems must routinely search for optimum solutions not only to clinical challenges, but also to operational ones.

[10] Marija Trachtenberg and Jose-Luis Fernandez: Community Healthcare in Europe: A Review of Policies. Personal Social Services Research Unit discussion paper 2887, November 2014.

[11] Review of Operational Productivity in NHS providers. An independent report for the Department of Health by Lord Carter of Coles.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/434202/carter-interim-report.pdf

2. Health-related socioeconomic outcomes- investing in economic and social capacity.

Health-related socioeconomic outcomes can be defined as the socioeconomic benefits to patients and society. This means supporting patients' socioeconomic status and their ability to support the economy and society. The concept offers guidance to decision-makers on the direction in which sound investments should be made.

This further contributes to the value of health systems. Appearance and progression of diseases, including the increase in co-morbidities, are often linked to age, but are also proven to depend on socioeconomic status. [12]

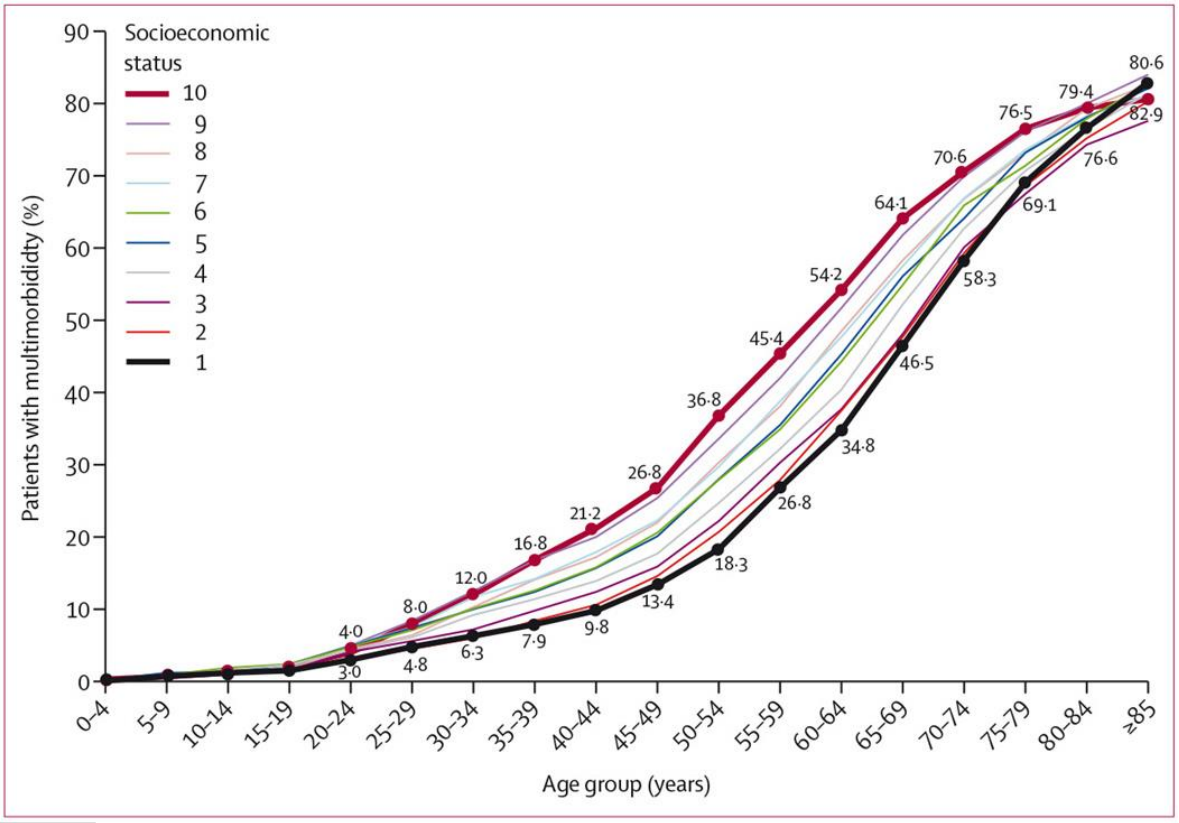


Fig.4 **Prevalence of multimorbidity by age and socioeconomic status**
On socioeconomic status scale, 1=most affluent and 10=most deprived.

Figure 4

Measures to prevent illnesses and their progression should be focused on those at highest risk. This creates maximum economic value and avoids increased inequality. The increased

[12] Epidemiology of multi-morbidity and implications for health care, research and medical education: a cross-sectional study. F Barnett, S.W.Mercer, M. Norbury et al. Lancet 2012; 380:37-43

tendency towards personalised healthcare may be useful in this context, along with rapid advances in medical technologies for the diagnosis and control of disease.

More qualitative and quantitative research is needed and appropriate methodologies must be developed to measure the true economic impact of health and care, considering not only the direct expenditure on healthcare provided but also the loss of socioeconomic contribution. Preliminary results indicate that the loss of socioeconomic contribution can be of the same or even larger magnitude then the direct expenditure and should not to be neglected when considering the value of health.

Table 1 (with data from 2009) illustrates the situation in the field of cardiovascular, coronary heart and cerebrovascular disease. Considering only these three heart diseases we already have initial estimates of a loss of socioeconomic contribution of €150 Bn and a cost of care of approximately €150 Bn. As a benchmark, the European GDP in 2009 was €12,500 Bn.[13] This loss of approximately 1% of GDP by only these heart diseases alone can be attributed to productivity loss due to mortality, morbidity and importantly informal care given.

	Cardiovascular Disease		Coronary Heart Disease		Cerebrovascular disease	
	€ Billion	% of total	€ Billion	% of total	€ Billion	% of total
Healthcare expenditure	106.2	54%	19.6	32.6%	19.1	49.7%
Loss of Socioeconomic contribution	89.4	46%	40.3	67.4%	19.3	50.3%
Total impact	195.6	100 %	60.2	100%	38.4	100%
	Cardio Vascular Disease		Coronary Heart Disease		Cerebrovascular disease	
	€ Billion	% of total	€ Billion	% of total	€ Billion	% of total
Productivity loss due to mortality	27	30%	12	30%	4.8	25%
Productivity loss due to morbidity	18.9	21%	5.5	13.6%	3.4	18%
Informal Care Cost	43.5	49%	22.8	56.4%	11.1	57%
Total Loss of Socioeconomic	89.4	100%	40.3	100%	19.3	100 %

[13] Adapted from Leal J, Luergo-Fernandez R, Gray A. Economic Costs. In Nichols M, Towsend N, Scarborough P, Rayner M et al. European Cardiovascular Disease Statistics 2012 European Heart Network, Brussels, European Society of Cardiology.

contribution						

Table 1. *Loss of socioeconomic contribution combining productivity loss due to mortality and morbidity and informal care costs. In this analysis the informal care costs are of the same magnitude as direct loss of productivity due to morbidity and mortality.*

More research will be needed throughout Europe to obtain appropriate quantification for the different diseases but it should be clear that **Europe cannot afford to have its citizens in poor health** An increased loss in economic capacity due to demographics changes is expected and the need for informal caregiving will increase, a role best provided by those not within the workforce (eg. those in retirement) but it will require for all EU citizens to be in good health to be socially active

3. Preventing the onset and progression of disease. Investing to avoid a need for healthcare expenditure.

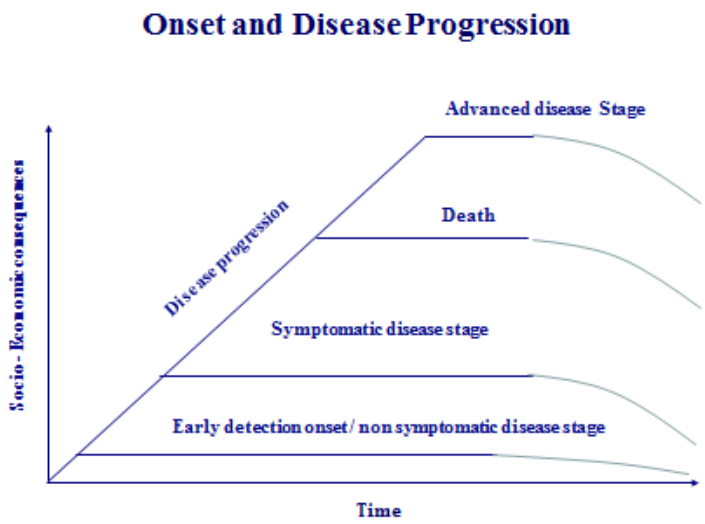
The *economics of cost of disease stage,* is directly related to the time of the diagnosis, the effectiveness of the treatment, the expected progression of the disease, co-morbidities and other confounding factors such as psychological side effects. These factors influence the cost of each disease stage and the way in which it progresses to advanced stages. Avoidance of healthcare expenditure will provide a significant economic value in support of the sustainability of health systems.

In addition Being in a less advanced disease stage has also significant economic benefit for the, patients and society compared to more advanced stages.

This factor should direct attention to investments in health systems, healthcare and technology that lead to a lowering of this cost factor including secondary and tertiary prevention in addition to primary prevention. This is particularly relevant to chronic diseases.

For example, a citizen with well-controlled diabetes can continue to be socially and economically active. In contrast, complications arising from advanced diabetes – including blindness and stroke – can dramatically affect productivity and, in most cases, will imply considerable health and social costs and, in addition, need for informal care.

Until now there has been very little focus on the opportunity to contribute significantly to this component of value and to focus on investing in this economic value determinant.



Conclusion

That good health is crucial for any citizen's well-being is intuitively understood – and well documented – and the search for the most effective ways to prevent, manage and treat illnesses by the healthcare systems in Europe is intensive. This whole complex is moving and branching in different directions, but generally the focus is shifting away from the pure cost of healthcare to the output/outcomes/value side of the equation and assessing the performance of health systems.

There is, however, little economic thinking and focus on why good health is an *economic good* for citizens and for society, for the simple reason that healthy citizens can be productive and be socially and economically active, thus contributing to economic growth. This also concerns the rapidly increasing older population in Europe. Saving on disability and pension costs can potentially free up resources for other forms of economic activity. This is not only the case for professional carers but also for informal caregivers, for example family members, because they lose the ability to be economically active. If poor health decreases citizens' socioeconomic status, their risk of sliding into ill-health and experiencing various co-morbidities will increase, causing further requests for public and personal financial resources.

In addition, good health also contributes to the economics of healthcare systems because costs of treatment and care can be avoided or reduced – not only by avoiding the onset of a disease, but particularly by preventing progression to more advanced disease stages (for example primary, secondary and tertiary prevention in chronic diseases). In this context, informed decision-making on care pathways will be crucial to provide appropriate care of the highest economic value. The potential of diagnostic information, novel models of care delivery and in collecting outcome results using big data through digitalisation of the health system, should be utilised and provided to healthcare professionals at all levels.

These two elements – health as an economic good and the economics of healthcare systems – will be critical to our further elaboration of decisions on how to deal with the economic value of health systems.

Well-designed health policies and well-performing health systems add many positive elements to the economy at large and make active employment policies work better as the workforce is kept more productive over a longer time. An additional positive economic effect will be the creation of incentives to find the smartest solutions and thus boost innovation further. All in all, such a change in the perspective on health and care can help address some of the big challenges our societies face and help many citizens to maintain their socioeconomic status, a key determinant of well-being.

In our view the *Economic Value* of health and healthcare system improvements means combining the value derived through the preservation and restoration of health and socioeconomic status (bringing socioeconomic benefits and the ability to contribute to the economy and society) with lowering operational costs – and avoiding cost – of treatment and care. This gives an important *added value* to the estimation of the *health outcomes* offered by the health system, when trying to get a more complete picture of the value of health and care. Therefore, *investing* in optimal ways of ensuring *economic value* will be a key pillar for building effective, efficient, resilient and sustainable health systems, to provide socioeconomic benefits and contribute to economic growth and increase equity.

By incorporating all aspects of economics in healthcare, focus can be directed towards instruments as **MEAT Value Based Procurement** that support informed decisions about the future direction of health policies.

Policymakers should embrace this new thinking on **Value = Outcome + Economic Value** to guide investing in health and care . The policy paper : "Why European policymakers should embrace new thinking on the value of healthcare investment" can be found here.

Acknowledgements:

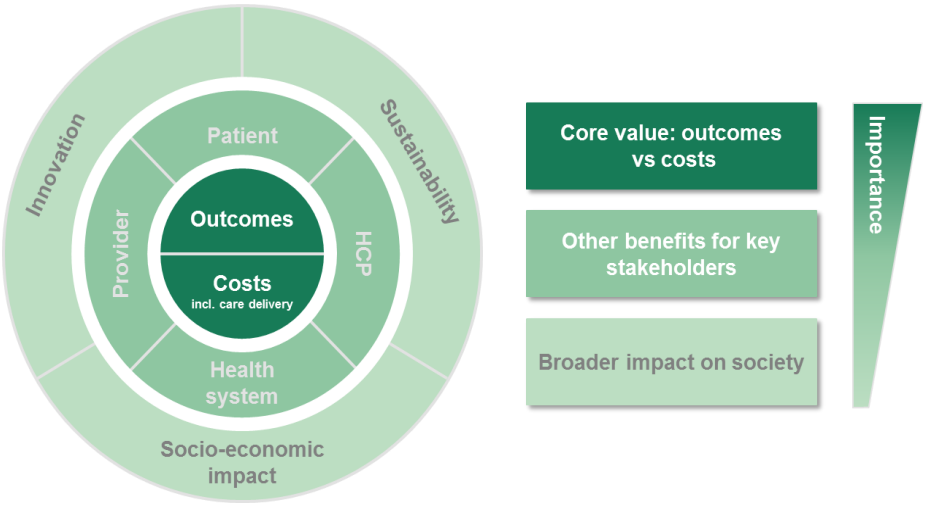
This paper has been produced under a grant from MedTech Europe, and I would like to thank this organisation for its interest in, and support of, the important subject under discussion in this paper. I would like in particular to thank Director Yves Verboven for his insight and willingness to discuss eagerly the issues of health care economics. I share with Yves a passion for stimulating a highly necessary debate about the future sustainability of health systems in Europe.

The content has also been discussed with a number of key personalities who have all provided very valuable comments and ideas. These include Francesca Colombo who leads the health work at OECD; Maria Iglesia Gomez, who has a central role in European health in the Europeans Commission's DG Sante; Federico Paoli, who is a key figure in developing health system's assessments – also within DG Sante; Christoph Schwiertz, who is working with health issues in the European Commission's DG ECFIN; and Josep Figueras of WHO/Europe – a real expert on the economics of health.

Annex

The framework of MEAT Value Based Procurement is exemplified in figure 1 where the core objective is by considering the value for patient, Health Care system contributors and society for the money invested to obtain the most economic advantageous solution to create overall societal well-being and to illustrate health systems' impact on health and, indeed, the societal economy.

Figure 1



The framework is described in more detail in the paper – Value Based Procurement, the unexpected driver of value based healthcare by Boston Consulting Group (BCG) and MedTech Europe. It provides a basis for dialogue healthcare partners common interest, awarding most economic advantageous offering and support implementation of value based healthcare.