"Health = Wealth". How much of it has already been achieved?

an article by Dr Rosanna Tarricone, Eucomed Economic Affairs Director

Facing the new *quadrilemma*

In 1789 Benjamin Franklin said that *"nothing can be said to be certain, except death and taxes"*. To these two certainties the economist would add that of scarcity of resources (Maynard, 1998).

The issue of scarcity of resources is not new in economics, i.e. the discipline that tries to efficiently allocate scarce resources to competing needs so as to get the most out of them - but it is more problematic in **health** economics, because of the emotional and ethical aspects around "health" and "healthcare". Allocating scarce resources efficiently mainly means selecting programmes that can maximize the output per unit of cost thus minimising the opportunity cost of non selected programmes. This implies that choices have to be made. In other words, it means that something or someone must be sacrificed for the benefit of someone or something else.

If this tension has always been difficult to face, it has become a challenge today because of compelling elements, i.e. ageing of the population, technological innovation and patients' expectations. People older than 65 will pass from 71 mil in 2000 to more than 130 million in 2050 with the "old old" (>80yrs) passing from 15 million to 53 million in the time period, i.e. from 3.2% to 12% of the global population. Longer lives would not be an issue if they all were longer healthy lives. However, even in the most optimistic scenario, i.e. considering that only half of the incremental life years will not be in health, the burden of chronic diseases will be enormous. Cancer rates are projected to increase by 50% from 10 million new cases globally in 2000 to 15 million new cases in 2020. Diabetes is projected to become one of the world's main disablers and killers within the next twenty-five years: from 177 to at least 300 million by 2025. Osteoarthritis accounts for half of all chronic conditions in persons aged over 65. Hip fractures will rise from about 1.7 million in 1990 to 6.3 million by 2050.

Technological innovation means that what was impossible yesterday is possible today. While opening new and difficult-to-predict ways to maximise populations' health, it makes governments struggling with the desire to provide patients with the best available treatments while keeping costs controlled. Patients' expectations in terms of quality of life and quality of care grew enormously in the last decades because of higher levels of education, higher incomes and better communication.

Governments have tried to reconcile the tensions due to ageing populations, technological innovations, patients' expectations and scarcity of resources by containing costs. These measures have seen the compression of supplies in the 60s and 70s (e.g. the number of hospital beds have decreased by more than 1 million in the last 20 years in EU-25) and, more recently, the consolidation of cost-effectiveness analysis and Health Technology Assessments (HTA). All these efforts were implicitly motivated by the belief that costs must be controlled because health is a cost. This was also because research and evidence around health, its determinants and its effects on other variables (e.g. economic variables) were rather poor and not sophisticated enough to capture the implications of better health (and spending on health) on the wealth of the population.

Recently, several efforts have however been carried out aimed at questioning the paradigm "health = cost" or at least wondering whether this paradigm is the one to also be maintained in the future. This is also Eucomed's motto according to the latest Chairman and Board communications.

The aim of the present paper is that of illustrating the scopes, methods, results and recommendations of very recent publications issued by DG SANCO, ECOFIN and PriceWaterHouseCoopers (PWHC) which provide relevant pieces of information about the above issue, so as to make the point about where we stand with health = wealth.

Suhrcke M, et al. "The contribution of health to the economy in the European Union" - A study financed by DG SANCO

In this study produced for DG SANCO, the authors claim that while health has been recognised as a determinant of economic growth in low income countries, the same has not received sufficient attention in high-income countries where the incremental benefits of improving an already high level of health are not considered great enough to contribute to economic growth.

It was already in 2001 when the Commission on Macroeconomics and Health (CMH) established by the WHO made a strong case for investing in health. Based upon the evidence from low- and middle-income countries, the CMH had the merit to shift the prevailing paradigm and put forward health as one of the key determinants of economic development. The same success has not been achieved in high-income countries where health and healthcare are still seen as costs which should be contained. With this as an important background, the authors wonder whether the poor consideration of the economic importance of health in high-income countries is justified. In order to respond to this scientific question they review the empirical literature on the impact of health on the economy and its relevance to the EU. **They conclude that health is to be considered as an investment that brings an economic return and not merely as a cost.** This has direct policy implications in that it provides a rationale for policy makers to use health investment within and outside the health sector as one additional means of achieving their economic objectives.

As to the structure of the work, the authors start with outlaying the theoretical framework underpinning empirical evidence that human capital is an important driver of economic outcomes.

Human capital as a driver for the economy: theoretical framework. They refer to the Grossman model (1972) that - even though partly criticised - still stands as the key model of the demand for health. Grossman distinguishes between health as a consumption good and health as a capital good. Thus, the production of health affects an individual's utility not only because of the pleasure of feeling in good health, but also because it increases the number of healthy days available for work and therefore income and leisure. Many inputs contribute to the production of health (genetics, lifestyle, education, wealth, environment,..): healthcare is one among these factors. Thus, if health influences human capital, it also matters in terms of economic growth. Economic growth refers to the steady process by which the productive capacity of the economy is increased over time to bring about rising levels of national output and income (Todaro, 2000) and is measured by the increase in Gross Domestic Product (GDP) in real terms. Economic growth depends upon three factors: the stock of capital, the stock of labour and productivity (i.e. influenced by technological progress).

Click here to view the study

Health thus enters the equation of economic growth since it contributes to:

- higher productivity (healthier individuals are expected to produce more per hour worked),
- higher labour supply (good health increases the number of healthy days available for either work or pleasure),
- higher skills (children with better health tend to achieve higher educational attainment and suffer less from school absenteeism and early drop-out)
- and more savings (individuals in good health are likely to have a wider time horizon and their savings ratio may be higher than the savings ratio of individuals in poor health, this also results in a higher propensity to invest in physical or intellectual capital) (Suhrcke, 2005).

The authors then go to the bulk of their analysis by asking whether theoretical assumptions are actually confirmed in empirical evidence. To reach this objective they make an extensive review of the literature so as to ascertain whether there are significant economic benefits from health in high-income countries.

Empirical evidence on health = wealth: results from the literature review

Following the work done by the CMH (2001) which concluded that a 10% increase of life expectancy at birth increases economic growth at least by 0.3 to 0.4% of GDP per year in developing countries, the authors tried to find out similar evidence (but adjusted to the developed world) by going through an extensive review of:

Cost-Of-Illness (COI) studies.

COI basically aims at measuring the economic costs borne by society as a whole because of the illness with the implicit assumption that had the illness been eradicated (or its incidence lowered) savings (stemming from freed resources) could be used for alternative ends. In times of resource constraints, the opportunity cost of healthcare services provided to diagnose and treat illness is very high and so it is the value of the same resources that could potentially be saved if the illness is prevented or its burden reduced (Tarricone, 2005). The review of COI studies encompassed cardiovascular disease (CVD), mental illness, obesity, diabetes, tobacco and alcohol. In all these cases the economic dimension of ill health is made clear, thus suggesting to policy makers the potential return on investment of appropriate preventive and curative strategies. CVD has also been the object of a recent study by Oxford University (Leat et al, 2006) that assessed the economic burden of this illness for the European Union at large. From the findings, it emerged that CVD cost European society 169 billion Euro in 2003 with healthcare accounting for 61% of total costs. This implies that any healthcare intervention that could lower the burden of this disease would also bring relevant savings to EU.

The economic impact of health at the level of individuals.

The authors retrieved a significant amount of evidence supporting the economic importance of health in the labour market. More specifically evidence exists that health matters for a number of economic outcomes: (1) labour supply (health affects the decision of participating in the labour force, the number of hours/days an individual decides to devote to work and also that of early retirement) and productivity (the output produced per unit of labour input is determined by the individual's health status); (2) wages (at an individual level there is evidence showing the causal relationship between health and wage), earnings.

Impact of health at macroeconomic level.

As to the macroeconomic evidence, the authors looked at (1) historical and cross-country studies, i.e. studies that have explored the role of health in a specific country over one or two centuries or between different countries. Fogel (1997) pioneered the first approach and found - for instance - that improvements in health and nutrition have accounted for about 30% of income growth in the UK in two centuries time (1780-1980). Using a panel data set from about 100 countries for the period 1960 to 1990, Barro (1996) found a significantly positive effect of health measured in terms of life expectancy on economic growth: a rise in life expectancy by 40% would increase the growth rate by 1.4% per year. From the work of Barro, it can be inferred that other conditions being equal, a five-year advantage in life expectancy will give a country 0.3 to 0.5% higher annual growth of GDP than its less healthy counterparts. The study by Bloom et al. 2001 and Bloom & Canning (2000) head in the same direction. They find that a one-year improvement in a population's life expectancy contributes an increase of 4% in GDP. They conclude by saying that increased expenditures on improving health can be justified purely on the grounds of their impact on labour productivity.

"Evidence suggests that improvements in health positively affect economic growth. One-year improvement in a population's life expectanc

Again, Brinkley (2001) in the USA examined the health-wealth causality over the last century. Wealth was proxied by GND data and health was measured through life expectancy, infant mortality rates, crude death rates and investment in medical research. The results are unequivocal for all four variables: the casual relationship runs from health to wealth. Improving health thus becomes key to creating the conditions for sustainable economic growth. However, when similar research is done on high-income countries alone, the impact of health on economic growth has not always been found to be significant (Knowles and Owen, 1995), which could mainly be due to life expectancy as an inappropriate measure in rich countries. Nevertheless, Beraldo et al. (2005) found the role of spending on health explained a much larger share (from 16 to 27%) of growth rates than expenditures on education (3%) thus concluding that investing in health also makes sense in rich countries and that it can make more sense than investing in education. As to the validity of life expectancy as the appropriate indicator for measuring health improvements, Suhrcke & Urban (2005) took a different line in assessing the role of health in economic growth in rich countries and instead of life expectancy they wondered what the role of non communicable diseases is in industrialised

countries. They therefore used cardiovascular disease (CVD) mortality to assess economic growth in 26 high-income countries and found that a reduction of CVD mortality at working age of 10% is associated with an increase in the growth rate per capita GDP by 1%.

"Suhrcke & Urban say that life expectancy is not always the appropriate indicator for measuring health improvements in high-income countries. When cardiovascular disease mortality was used to assess economic growth it emerged that a reduction of CVD mortality at working age of 10% is associated with an increase in the growth rate per capita GDP by 1%."

These results underline the need to look for more appropriate health indicators when trying to assess the impact of health on economic growth in rich countries. CVD mortality is a good example of good indicators not least because it displays more variability among the high-income countries than life expectancy does.

Is GDP a good measure of social welfare?

It must be said that all the studies reviewed start from the premise that what counts is GDP maximisation in the implicit but controversial assumption that GDP is a good measure of social welfare. On the contrary, it is rather uncontroversial and universally accepted that the true purpose of economic activity is the maximisation of social welfare not necessarily the production of goods by itself. Since health is an important component of social welfare, measuring the economic cost of ill health only in terms of foregone GDP leaves out a potentially major part of its full income impact. If we consider how much of their income individuals are willing to give up for better and longer health, we easily understand the value they attribute to health, thus making an even stronger illustration of the true economic importance of health. The issue here is how to make the high value attributed to health explicitly visible by measuring the extent to which we are willing to trade-off health with other market goods for which a price exists. Preliminary work is being carried out by McKee et al. (2005) showing rates of return between 50 and 270%, a magnitude that is not matched by other types of investments.

From the review, the authors conclude that that there is much evidence documenting the positive contribution that a healthy population can make to the economy in EU and that health is an investment and not a cost. Nevertheless, they also acknowledge the scarcity of data in Europe and the fact that available data are of poor quality. Further research is needed to build new evidence for the EU, calculating health improvements with measures different from survival rates and finding out ways to explicitly detect the impact of health on a measure of wealth which goes beyond GDP, i.e. the welfare function.

"European data are lacking. There is urgent need to find reliable evidence on the relationships between health and wealth and to go beyond GDP as a measure of wealth"

The major strength of this study is that of challenging the traditional and generally accepted consideration that health is a cost and that healthcare services need to be cost contained. Research in the past decades had therefore focused on how cost containment measures could be developed and implemented by governments so as to control increases in healthcare expenditure. From the results of this study it emerges conversely that health can be seen as an investment whose returns may be high, even higher than that of undisputed sectors like education. This gives new impetus to the Medical Devices Industry that finds in this approach a new promising direction where to focus future and further attention as well as collaboration and partnership.

ECOFIN "The Impact of ageing on public expenditure: projections for the EU25 Member States on pensions, healthcare, long term care, education and unemployment transfers (2004-2050)" Study prepared by DG ECOFIN

In 2003, the ECOFIN Council gave the Economic Policy Committee (EPC) a mandate to produce a new set of age-related public expenditure projections for all twenty-five Member States covering pensions, healthcare, long-term care, education, unemployment transfers and contributions to pensions/social security systems. This report presents these new budgetary projections and also covers the new EU10 Member States. The projections are generally made on the basis of **"no policy change"**, i.e. only reflecting enacted legislation but not possible future policy changes.

The report says that for the EU15 and the Euro area as a whole:

- public spending is projected to increase by about 4 percentage points between 2004 and 2050;
- most of the projected increase in public spending will be on pensions, healthcare and long-term care. Potential offsetting savings in terms of public spending on education and unemployment benefits are likely to be limited;
- the budgetary impact of ageing in most Member States starts becoming apparent as of 2010. However, the largest increases in spending are projected to take place between 2020 and 2040.

The mandate from the ECOFIN Council to the EPC followed the 2001 projection exercise of the EPC which examined the impact of demographic variables on healthcare spending. The methodology used in 2001 was a pure ageing scenario which only considered the impact of changes in the size and age-structure of the population on healthcare spending. It consisted of applying profiles of average health expenditure per capita, provided for a base year by Member States, to a population projection of Eurostat. The projections were run under the assumption of constant age and gender-contingent demand and consumption of healthcare over time. They were also made under two cost assumptions, i.e. expenditures per capita grow exactly at the same rate as GDP per capita (which can be considered as neutral in macroeconomic terms), and expenditures per capita increase at the same rate as GDP per worker (to reflect labour intensity of the healthcare sector). The 2001 report of the EPC recognised the limitations of this projection methodology, in particular the strong assumption of holding age-related expenditure profiles constant over time, the failure to link expenditure to years of remaining life (death-related costs), and the absence of non-demographic drivers of spending from the projection exercise.

In order to respond to previous shortcomings, EPC first identified demographic and non-demographic factors (the health status of the population, economic growth and development, new technologies and medical progress, the organisation and financing of the healthcare system, healthcare resource inputs, both human and capital), and secondly run several different projection scenarios in order to tackle the issue from a variety of different angles.

"The recent report differentiates from the previous one in that it also considers non-demographic factors and runs several different scenarios to project future public spending"

At the end of their analysis, the authors found that:

- the pure demographic effect of an ageing population is projected to push up healthcare spending by between 1 and 2% of GDP in most Member States in the following 45 years;
- changes in the healthcare status of elderly citizens would have a large effect on health spending. If healthy life expectancy (falling morbidity rates) evolves broadly in line with changes in age-specific life expectancy, then the projected increase in spending on healthcare due to ageing would be halved;
- if so-called 'death-related costs' are taken into account, expenditure is projected to increase significantly slower than in the pure ageing scenario as the share of people in their final phase of life in each age cohort is getting smaller as average life expectancy increases;
- changes in per capita income could have an important impact on healthcare spending, especially if it is viewed as a luxury good. Introducing stylised effect of a 1.1 income elasticity converging to 1 over the whole projection period increases total spending by extra 0.3% over 'pure demographic' effect of ageing;
- the projection results are sensitive to the assumptions on unit costs.

Conclusive remarks are that what is apparent is that increases in spending on healthcare as a share of GDP in past decades have not been strongly influenced by demographic developments, but rather by policy decisions to enlarge access, by the demand for better quality healthcare linked to growing income levels, and (albeit less conclusively) by technology (as falls in unit costs to date appear to have been more than offset by increased demand and quality improvements). There are very big differences across Member States in terms of per capita spending on and inputs to healthcare systems, which do not appear to be correlated with healthcare outcomes. A priori, this suggests **there is considerable scope for efficiency gains**, even though it is difficult to draw conclusions as to whether and how institutional design affects healthcare outcomes or efficiency. Third, the demand for healthcare (and social care) depends ultimately on the health status and functional ability of

(elderly) citizens, and not on age per se. **The projections illustrate that if most of the future gains in life expectancy are spent in broadly good health and free of disability, this could offset up to one half of the projected increases in spending due to an ageing population.** The projection results show that spending levels are sensitive to the assumptions on evolution of unit costs in the healthcare sector. Leaving aside demographic factors, spending on health as a share of GDP could change as a result of several factors, e.g. unit costs (wages, pharmaceutical prices) growing faster than their equivalents in the economy as a whole, public policies to improve access to health or improve quality (reduce waiting lists, increase choice), rising income levels and the impact of technology on total healthcare spending. **Technology could either increase or decrease overall public spending on health depending on whether the savings from more effective medical treatments and lower unit costs outweigh the additional spending resulting from the opening up of new and more affordable services.** Fourth, ageing will not only raise a policy challenge in terms of putting pressure for increased spending on healthcare. Of equal, if not more relevance, is the impact of ageing on the type of healthcare services that will be needed: morbidity and mortality patterns are changing in the context of an ageing society, and a key challenge is for healthcare systems to adapt accordingly. There may be a need to rebalance the various types of care (primary and secondary, outpatient and hospital care, classical healthcare, long-term care and social care).

What is striking from the review of existing literature is the lack of comparable data and evidence and analysis within Europe on this matter. A heavy reliance is therefore placed on data and analysis from third countries, notably the US, which may only be of partial relevance for the EU, given possible differences in morbidity patterns and also the very different organisational arrangements of the healthcare sector. **More investment is required in order to get a more accurate and comparable picture on the evolution of healthcare trends of the European population over time**; past improvements in life expectancy are attributable to a variety of factors including better public health systems, improved education, changes in nutrition and lifestyle. Understanding the precise role which public policies play in shaping healthcare outcomes is of critical importance. Again, the prospect of increased spending on healthcare in an ageing society will be a cause for concern for Finance Ministers as it will make the tasks of achieving and sustaining sound budget positions more challenging. However, the policy challenge needs to be viewed in terms of general welfare and not budgetary considerations alone.

A priori, there are no economic reasons why countries should not devote a larger share of resources to healthcare. Increased government intervention can be justified if the income elasticity of demand is such that demand outpaces income growth, and also if investment in technology is more than compensated by improved quality and/or productivity.

Notwithstanding these caveats, simply spending more money is not an option, and difficult choices on priorities will have to be made. The management and control of healthcare spending will be a critical part of overall efforts to ensure sustainable overall public finance positions. In this regard, aggregate cost-containment measures to control volume, prices and wages, as well budgetary caps, have helped constrain expenditure especially in the hospital sector, and are likely to remain key elements in the comprehensive healthcare strategies of Member States. However, their effectiveness may diminish over time as suppliers alter their behaviour and they risk introducing distortions that could lead to costly inefficiencies.

Shifting some of the costs to the private sector, for example via cost-sharing requirements, can also help to control public expenditure: however, the expected saving may be modest given the need to pursue public policy objectives related to access and equity; efforts to improve the cost efficiency will play an increasingly important role in controlling expenditures over the long-run.

However, it is difficult to draw general conclusions on the effectiveness of different types of cost efficiency measures, as much depends on the institutional structure of the healthcare system concerned. Governments face a considerable challenge in designing reforms that achieve a better alignment of the economic incentives facing healthcare providers and users that encourage rational resource use, in part linked to lack of data and information.

The major strength of the present study is that of looking into the casual relationships between aging and future expenditure in a more sophisticated way than before. The presence of non-demographic factors,

including technological innovation, is key to explain public spending and, contrary to common understanding, it is here found that technology in healthcare need not to be considered as an increasing factor if it affects the management of diseases in a way that either saves resources or increases patients' productivity and wealth.

It must be said however, that the model used in this study is not always dynamic and since it projects public expenditures over the next 45 years, it is likely that current variables will interact differently in the future years and/or will be supplemented/replaced by new additional factors.

Finally, it is here stated again that there is a lack of data for Europe and that most of the available data comes from the USA which is not always the closest model.

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PriceWaterHouseCoopers "HealthCast 2020: creating a sustainable future"

The PwH study is different from the previous two in terms of methods and scopes. It does not aim at establishing quantitative evidence around the health=wealth paradigm, but rather to understand how health and healthcare can be improved and become sustainable from the point of view of those who actually work towards improving the population's health (e.g. policy makers, hospital managers, health-related industry representatives,...). To achieve the goal, a survey of more that 580 executives from hospitals, physician groups, payers, governments, medical supply companies and employers was conducted in 27 different countries. This study starts from the premise that health systems around the world are unsustainable if left unchanged and will collapse over the next 15 years. The study aims at finding global answers and recommendations to this problem in the belief that healthcare is a global issue and that lessons can be transferred from one country to another.

The results of the survey and further interviews carried out with more than 120 opinion leaders in 16 countries, say - for instance - that (i) financial responsibility should be shared with patients and, (ii) care must be integrated and IT is an effective way of doing so.

More specifically, possible solutions to drive changes have been envisaged for different sectors/issues like the health system, finance, people, process and technology and are summarised in the table below.

Solution driver	Transferable lessons
Health System	1. Determine the basic package of care to be publicly financed and structure an insurance for the rest 2. Think small 3. Collaborate across sectors
Finance	1. Access new sources of capital through public-private partnership 2. Make consumers more responsible for the cost of seeking care 3. Establish Pay-for-performance to incentivize clinicians
People	1. Make wellness the preferred lifestyle 2. Train workers in new technologies
Process	1. Clinicians as facilitators of appropriate care 2. Agreement on quality standards 3. Make error reporting voluntary 4. Listen to consumers
Technology	1. Invest in IT technology

	2. Make technology a way to collaborate 3. Value technology's impact on productivity and lifespan

Source: adapted by PWHC "HealthCast 2020" page 7.

From reading the transferable lessons, it can be said that some of them are not really new (i.e. value technology's impact on productivity and lifespan) and are universally accepted, thus they do not represent an issue (i.e. healthy lifestyle). Others are simplistic, that is they have been at the top of policy makers' agendas for long time and have formed part of a lively debate (i.e. basic package of care), thus meaning that they can not be handled overnight. Finally, there are some which are really controversial (e.g. think small such as building new speciality hospitals to be closer to patients) and in absence of any solid evidence are unlikely to be accepted by decision-makers.

The results of this survey are very interesting because they come from those who are likely to take actual decisions and influence the organisation and the development of healthcare systems. These results are also important however, because they often contradict evidence found in the scientific literature thus making it interesting to know whether this contradiction happens because the scientific literature does not reflect decision makers' perspectives and opinions or because the methods used to administer the interviews and do the survey were not adequate to achieve the goal of the study.

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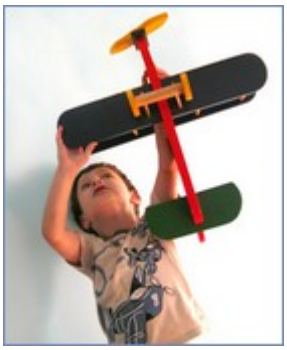
Conclusion

The provision and financing of healthcare services in Europe has always been difficult to manage for local governments struggling with the desire (if not necessity) to offer their citizens modern care whilst facing limited resources. However, while until recently major governments' interventions were in the direction of controlling costs, it seems we have now entered a new phase, one in which researchers, decision makers and politicians are wondering what the contribution of health to the economy is exactly and whether strict healthcare expenditure caps make sense on economic grounds.



Several studies have been released which - even with different perspectives and angles - try to understand the relationships between health and wealth, health and productivity, health and quality of life.

The DG SANCO publication aims at challenging the traditional paradigm "health = cost" with "health = wealth", and demonstrates that increases in health spending can be justified purely on economic grounds. However, they acknowledge the lack of European data and the urgent need to explore new measures to assess health improvements and a broader concept of populations' wealth that goes beyond GDP.

The ECOFIN study uses a sophisticated modelling analysis to project future public spending in the major sectors (healthcare, long-term care, pensions, ..). Compared to the previous publication, major improvements are the inclusion of non-demographic variables into the model and the consideration of different "ageing" scenarios (from the worst to the best where all incremental life years are spent in good health).

Conclusive findings say that if most of the future gains in life expectancy are spent in broadly good health and free of disability, this could offset up to one half of the projected increases in spending due to an ageing population. Technology could either increase or decrease overall public spending on health depending on whether the savings from more effective medical treatments and lower unit costs outweigh the additional spending resulting from the opening up of new and more affordable services. A priori, there are no economic reasons why countries should not devote a larger share of resources to healthcare: increased government intervention can be justified if the income elasticity of demand is such that demand outpaces income growth, and also if investment in technology is more than compensated by improved quality and/or productivity.

The PwH survey concludes that since healthcare is a global issue, there can be global recommendations to counteract the progressively limitless increase of expenditures and costs. These may be found in collaborating

further across sectors, motivating physicians to achieve high levels of performances, sharing costs with patients and using innovative technology.

Generally, it can be said that from the above studies a broader - more correct - vision seems to rise, the one that would see the healthcare budget within a more general consideration of public money allocation based upon expected returns and not merely one that sees healthcare budgets as something to be constrained per se.

Technological innovation plays an important role in this scenario. It has been acknowledged that technological innovation can be an important determinant for better health. The problem is actually how improvements in health can be measured to explicitly assess the contribution of technological innovation and how these improvements can translate into economic terms. GDP is the common and traditional way to do so but it does not capture the true and more modern concept of wealth. In other words it is claimed that what matters is not countries' GDP increase but individuals' welfare, the "full income" approach claimed in the DG SANCO publication.

Finally, since the three studies all conclude that there is no data available for Europe, it becomes difficult to make the new paradigm "health = wealth" real if reliable and solid evidence are not found soon. This is a great opportunity Eucomed can not miss it out. The Industry should take advantage from the existing efforts and try to influence further research where there is much interest. More specifically, there are at least three areas which Eucomed could investigate further:

1. Help to develop European evidence around the economic and social value of medical technology, by studying new and alternative ways to crude indicators such as "health expectancy" to measure health improvements, ones that can capture more effectively high-income countries populations' health attainments.
2. Help to develop the concept that containing expenditures of MT can be counterproductive for the overall performance of healthcare systems (in the assumption that healthcare systems do affect individuals' health) if the returns in terms of individuals' health, productivity and finally wealth are not taken into account.
3. And finally, help to develop the concept that the allocation of healthcare resources can be a misleading exercise, or at least not fully exploited in its potentials, if not managed at a broader level, in collaboration with - for instance - the Ministries of Finance (but also with the Ministries for Social Services and the Ministries for Welfare).

The above areas of research and collaboration and ultimately, the opportunity for Eucomed to play an active part in the debate in the health policy arena, are consistent with the recent project put forward by Eucomed to launch an independent European Research Institute for Economics, Social Policy and Medical Technology. The idea is that of establishing a virtual network of academic centres, industry representatives and policy makers with the purpose of carrying out research around the above hottest issues so as to influence governments' health policy agenda.

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