European Investment Bank The EU bank

European Commission

Framework agreement to support EIB advisory services (EIBAS) activities inside and outside EU-28

Assignment Terms of Reference

Lot 4: Smart Growth, Social Infrastructure and Horizon 2020

# Health Sector Study EU

## Final Report

March 2019

**Prepared by:**

EY Building a better working world

**In consortium with:**

technopolis |group|

**Funded by:**

European Investment Advisory Hub

Europe's gateway to investment support

**About the Final Report**

The Final Report has been prepared and submitted by EY in consortium with Technopolis Group.

The document provides a summary of data and obtained evidence, as well as a set of conclusions and recommendations that result from the EU-wide Health Sector Study, on optimal approaches, tools and financing schemes to support the implementation of priority EU healthcare policies and reforms.

**Financing of the Health Sector Study EU**

The Study has been financed under the European Fund for Strategic Investments (EFSI) – European Investment Advisory Hub (EIAH), acting on behalf of the European Investment Bank and European Commission DG SANTE.

**Date of submission of the Final Report**

February 2019

**Disclaimer**

The authors take full responsibility for the contents of this Report. The opinions expressed do not necessarily reflect the view of the Advisory Hub, nor the European Investment Bank, nor the European Commission.

## Contents

# List of acronyms and abbreviations

| | |
|---|---|
| CEB | Council of Europe Development Bank |
| DG SANTE | European Commission's Directorate-General for Health and Food Safety |
| DRG | Diagnosis-related Groups |
| EBRD | European Bank for Reconstruction and Development |
| EFSI | European Fund for Strategic Investments |
| EIB | European Investment Bank |
| ERR | Economic Rate of Return |
| ESIF | European Structural and Investment Funds |
| EU | European Union |
| EU-13 | Group of 13 EU countries: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia Lithuania, Malta, Poland, Romania, Slovakia and Slovenia |
| IFIs | International Financing Institutions |
| IRR | Internal Rate of Return |
| NPBs | National Promotional Banks and Institutions |
| PPP | Public-Private Partnership |
| SRoI | Social Return on Investment |

# Executive summary

## About the EU **Health Sector Study & Final Report**

European Investment Advisory Hub
Europe's gateway to investment support

This EU-wide Health Sector Study (hereafter also referred to as "the Study") is designed to support the European Investment Advisory Hub, and thus the EIB and the European Commission's DG SANTE, in **promoting sustainable investment in Europe's healthcare sector**.

This looked then to discover and evaluate optimal approaches, tools and financing schemes for investments to support the implementation of priority EU healthcare policies and reforms.

**The defining purpose of the Study is an exploration, across EU Member States, of the gaps in healthcare investment, the barriers leading to those gaps and the reasons why the health sector investment needs and priorities are not being appropriately addressed**.

In particular, the following five health investment sub-categories have been explored:

- Hospitals (including medical equipment),
- Primary care,
- Long-term care,
- E-health,
- Other healthcare investments (including new care models, prevention/public health, workforce training, integration etc.).

This categorisation allows a view on conventional **physical capital investment** for the infrastructure and equipment of the healthcare sector, and critically on **human capital** within the healthcare sector. It also covers areas associated with healthcare and the relevant resources, such as **public health**. Whilst physical hardware investment will almost inevitably account for the largest share of total capital investment, and may be easier to supply by the large capital suppliers such as the European Commission and the International Financing Institutions (IFIs), there is a **trend towards smaller and more intangible investments**, and the Study explored this.

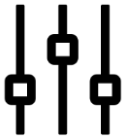
The Study consisted of two phases. In the first phase, the Study covered all 28 Member States of the European Union. The tools used to collect data on healthcare investments in the EU during that phase were mostly **desk research** and **data analysis**, together with a **survey** completed by several relevant healthcare stakeholders in a number of these Member States. The second phase explored in detail the approaches taken by six selected EU countries in financing their healthcare investments. The selected countries were: Croatia, Finland, France, the Netherlands, Portugal, and Slovakia. The main tool during that phase was **in-depth interviews** with key public and private stakeholders in the six selected countries.

This Final Report (hereinafter also referred to as "the Report") uses a variety of theoretical methods, data analysis and interview material to draw to its main conclusions and recommendations.

**The Report captures gaps, barriers and other essential factors influencing healthcare investments, as well as elements of best practice in financing the various types of investments. In its final section, the Report includes the presentation of key features of future financial support for health systems within the EU, and recommendations targeted at EU level and national/regional level, explained in detail and supported with rationales resulting from the Study.**

## In absolute terms, **gaps** in healthcare investment can be understood as differences between the levels of **healthcare capital stock** across the EU countries

Analysing the levels of healthcare capital stock allowed an assessment of the **value of assets in the healthcare systems**, by capturing from national and international statistical sources the value of accumulated healthcare investments, and while taking into consideration capital losses through depreciation and obsolescence. Healthcare capital stock includes infrastructure such as hospitals and clinics, medical equipment, e-health, etc. For each EU country, healthcare capital stock per capita has then been calculated as the 2015 total value of healthcare assets in the country divided by that year's population in the country.



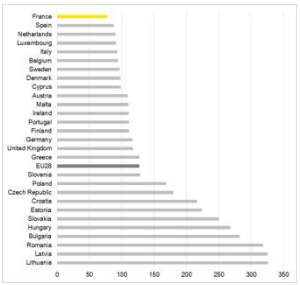
This analysis of healthcare capital stock showed **strong differences across EU countries**, measured by deviation from the EU average. The **coefficient of variation amounted to 85%**, which is a measure of dispersion defined as the ratio of the standard deviation to the mean.

These strong differences could be referred to as the “gaps” in healthcare investments between EU countries, however, presented for one point in time (2015). These gaps could potentially result from multiple factors. Firstly, countries across the EU represent **different levels of past healthcare investments**, both in terms of value and types of investments, and that in turn could be a result of, among others, various barriers that arise in particular countries, and other essential factors shaping countries’ individual contexts. Secondly, due to different past points and types of investments, the **depreciation levels of the existing infrastructure vary across EU countries**. Different volumes of past healthcare investments and different depreciation levels of the existing infrastructure are likely the major causes behind identified gaps across EU Member States in healthcare capital stock.

**The cumulative deficit of healthcare capital stock in 18 EU countries** (for the population of these countries) has been calculated as a sum of negative deviations from the EU average and **amounted to 262 billion EUR in 2015.** [1]

## The gaps could be also defined relative to **health outcomes**, measured by **amenable mortality**…

The healthcare capital stock per capita of EU countries was then related to **healthcare system performance**. Any assessment of the general performance and quality of healthcare systems is problematic, since the weighting ascribed to different aspects of performance will never carry universal agreement. However, it can be quantified with various **health outcome measurements**. Among these, the Study used **amenable mortality** as an acceptable indicator.




see page 21

The amenable mortality rate is the rate of **deaths that could have been avoided**, which means they would not have occurred if timely and effective healthcare had been provided.

Measuring by amenable mortality, France can be shown to have the best performing health care system among EU countries in 2015, with the rate lower than the EU average by almost 40%. In Lithuania, on the other hand, the last country in the ranking, the respective rate was four times higher than in France, and over 2.5 times higher than the EU average.

In general, **the coefficient of variation amounted to 50%**. Therefore, in a way similar to healthcare capital stock, amenable mortality rates in the EU showed **strong differences between countries in terms of health outcomes**.

[1] The countries with healthcare capital stock deficit with respect to the EU average in 2015 were: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia, Slovenia, Spain. The calculation excluded France, since it is the best performing country in terms of amenable mortality,

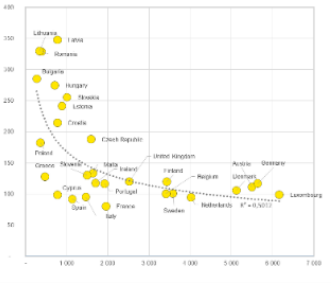
Such varying health outcomes across the EU are certainly linked, in highly complex ways, to multiple factors, which were not investigated during this Study, apart from the possible relationship between health outcomes and the levels of healthcare capital stock.

## …and therefore hypothesising that there is a link **between** the health system performance and the level of healthcare investments

One of the tasks during the Study was then to find a **relationship between the value of healthcare assets and the measure of health outcomes**. In order to test whether this can be observed, the statistical dependence between the value of healthcare capital stock per capita and the amenable mortality per hundred thousand inhabitants was investigated.

see page 22

The result showed a **negative, non-linear dependence between the level of healthcare capital stock per capita and amenable mortality**. The identified correlation does not prove causation, nonetheless, it indicates that some degree of relationship between the level of healthcare capital stock per capita and amenable mortality is rather probable.

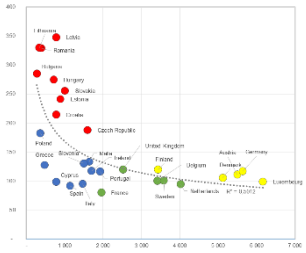



**The common-sense interpretation of the identified reverse relationship between healthcare capital stock and amenable mortality is that all countries can expect some gain in amenable mortality if they invest more in healthcare assets**. **However, since the identified dependence is curvilinear, the best-fit line indicates decreasing marginal benefits in improving health outcomes from investing in healthcare assets, the higher the existing endowment of capital stock.**

Since France has under the chosen measure the lowest amenable mortality rate among EU countries, this country could be a natural reference point, with the intuitive interpretation being that, for instance, countries which have more healthcare capital stock per capita than France do not obtain significant increases in amenable mortality by having increased levels of capital stock.

Moreover, mapping healthcare capital stock and amenable mortality provides suggestive insights into the efficiency of healthcare investments relative to the trend line of the non-linear regression. Countries which lie below the trend line are outperforming, i.e. have a lower (better) than expected level of amenable mortality for their given endowment of health capital stock. Correspondingly, countries which are above the trend line are underperforming – they have not invested in healthcare as effectively as expected, with the implication now that they should rather focus on increasing the efficiency of their healthcare investments, i.e. improving the extent to which any particular level of healthcare investment results in the improvement of health outcomes.

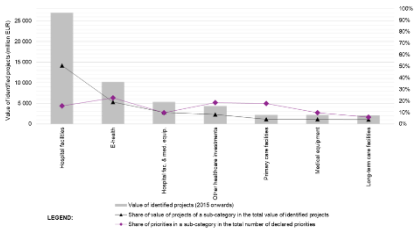
see page 24



**Based on the position of each EU country relative to the trend line (below or above the trend line) and position relative to France (left or right of the benchmark country according to the amenable mortality rate), an intuitive four-way grouping of EU countries can be postulated. EU countries were thus mapped with regard to two dimensions: the potential impact of increasing healthcare capital stock, and their efficiency of healthcare investment.**

## Gaps in healthcare investments can also be structural – countries' **strategic prioritisation** of healthcare investments is often not reflected in the **actual pattern of investment spending**

Apart from the gaps in healthcare investment presented in absolute values and relative to amenable mortality, the **Study also explored the potential structural gaps in healthcare investments**. It did this by investigating the connection between the national priorities regarding sub-categories of healthcare investments, declared in strategic documents by each EU Member State, and how these priorities are reflected in the actual investments pursued by those countries. The analysed sub-categories of healthcare investments were hospital facilities, medical equipment, a combination of both hospital facilities and medical equipment, primary care facilities, long-term care facilities, e-health and other types of healthcare investments (including e.g. public health measures such as health promotion or disease prevention, health workforce training and new care models).



It would be common sense that national healthcare investment priorities should set the direction for investments and be reflected in specific actions. However, the Study indicated that often there is only a **limited connection – or sometimes none at all – between prioritisation of particular types of healthcare investments and the factual pattern of investment projects.**

see page 29

The reasons behind such a finding could be many and various:

- Priorities resulting from health policies of countries do not necessarily translate into actual spending on them, due to a probable **lack of binding decisions and formal requirements to fulfil the premises of health policies**.
- There could be a **lag between the time at which investment priorities are developed and declared and the period of actual investment decisions** and implementation of projects.
- The **priorities are not weighed by the capital intensity of investments** in particular sub-categories. For instance, hospitals are more capital-intensive than e-health or other healthcare investments, such as disease prevention programmes and health workforce training. Therefore, the share of spending on particular sub-categories should be related to the capital intensity of the identified investment areas.

Whatever the reason, the **share of value of investment in hospital facilities is almost universally the biggest**. Even though some EU countries do not claim to prioritise investment in hospital facilities, they still have to invest large amounts of money in such facilities, mostly due to their high capital intensity and the need for renovation and modernisation of current infrastructure which is often obsolete or in any event unsuited to modern clinical practices.

Notably, **e-health is presently recognised** as an important investment priority across the EU, **and the Member States do seem to be investing** relatively large amounts of money in it.

**Other healthcare investments**, particularly public and preventative health measures are **also often stated as a priority** for EU countries, however, in practice**, little is usually invested in these areas.** This could be related to, among other factors, the relatively low cost-intensity of such projects – and the perception of this category as a cost/consumption item for the system rather than an as investment even though population health programmes have all the characteristics of human capital investment.

**Primary care facilities are another area which seems to be prioritised, yet underfinanced.** This could result from the relatively low capital-intensity of investment in primary care facilities, and fragmentation with regards to time, location and ownership of such facilities, resulting in many small investments that are difficult to fund coherently.

Perhaps surprisingly in the context of ageing societies, **long-term care facilities neither seem to be a priority area for healthcare investment in European countries, nor an important item in the inventory of identified projects**. The outcome of few strategic and financial actions within the area of long-term care could be explained by multiple factors. Firstly, even though there is an evidence-based (ageing society etc.) need for development of the long-term care sector, there could be **a lag in the response to addressing this issue in health policies and strategies** resulting, for example, from the **hardship of introducing and raising the importance of a new priority area into the sector that is already facing multiple challenges**. Secondly, there could **be little linkage between health and social policies** – responsibility for the area of long-term care is often not clearly assigned to particular state authorities, and therefore this area is often omitted in current strategies labelled as "health". Thirdly, **long-term care could be often provided by but hidden in a hospital facility** as a result of the elderly or those chronically ill occupying acute-care facilities (investment projects typically concern whole facilities), or **the market could be fragmented with multiple private facility owners**.

## Gaps in healthcare investments might be caused by multiple **barriers** to implementation of healthcare policies and healthcare investments

There are many reasons why gaps in healthcare investment occur and why they vary between countries. One set of reasons behind those gaps could be the identified **barriers to investing** in healthcare, which can arise in a variety of ways.

see page 35

| Category of barrier | Bulgaria | Croatia | Denmark | Latvia | Poland | Romania | Slovakia | Spain | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Constraints of healthcare investment promoters** | | | | 2 | 1 | 1 | | 1 | 5 |
| Insufficient management and negotiation capacity of healthcare investment promoters | | | | 1 | | | | 1 | 2 |
| Insufficient project development know-how and experience of healthcare investment promoters | | | | 1 | 1 | 1 | | | 3 |
| **Insufficient access to funding** | 2 | 2 | | 1 | 1 | 4 | 2 | 1 | 13 |
| Insufficient financial resources for capital expenditure from government (e.g. central, regional, local, specialist agency) | 1 | 1 | | 1 | 1 | 1 | | 1 | 6 |
| Insufficient presence or activity in the country of large financing institutions (e.g. EIB, National Promotional Banks, international financing organisations) | | | | | | 1 | | | 1 |
| Lack of appropriate financial instruments (e.g. bonds, loans, etc.) allowing for tailored financing of the investment | 1 | | | | | 1 | 1 | | 3 |
| Lack of awareness and capacity of public/private entities to access available financial instruments (e.g. bonds, loans, etc.) outside the government budget | | 1 | | | | 1 | 1 | | 3 |
| **Regulatory barriers** | 2 | 3 | 1 | 2 | 3 | 3 | 3 | 1 | 18 |
| Changing regulations and low predictability of when the changes will take place | 1 | 1 | 1 | | 1 | 1 | 1 | | 6 |
| Inefficient procurement rules | 1 | 1 | | 1 | 1 | 1 | 1 | | 6 |
| Numerous complex regulations | | 1 | | 1 | 1 | 1 | 1 | 1 | 6 |
| **Total** | 4 | 5 | 1 | 5 | 5 | 8 | 5 | 3 | 36 |

The **barriers** can be grouped into four major areas:

- **Constraints within healthcare investment promoters,**
- **Problems flowing from insufficient access to appropriate funding,**
- **Regulatory issues,**
- **Changes in the political landscape.**

**Each of the identified barriers challenges the process of developing healthcare investments across the EU Member States – with the significance varying, however, from country to country with respect to the types of barriers and their intensity.**

While the removal of some of these barriers would result in a significant step forward, there are **no clear indications that removal of one or a group of barriers would suddenly result in unblocking the system to invest appropriately.**

## Apart from barriers, there are also **other factors** shaping and influencing healthcare investments

see page 40

| Category of factor | Croatia | Finland | France | Nether-lands | Portugal | Slovakia | Total |
|---|---|---|---|---|---|---|---|
| Finance availability | 1 | 1 | | 1 | | 1 | 4 |
| Governance by government | 1 | 1 | | 1 | 1 | 1 | 5 |
| Hospitals and hospital tariffs | | | 1 | 1 | | 1 | 3 |
| Human capital | 1 | 1 | 1 | 1 | 1 | 1 | 6 |
| PPP | | 1 | 1 | | 1 | 1 | 4 |
| Private sector | 1 | | 1 | | 1 | 1 | 4 |
| Project appraisal | 1 | | | | 1 | 1 | 3 |
| Public health and other non-hospital sub-categories | 1 | | | | | 2 | 3 |
| Strategies and priorities | 1 | | 1 | | 1 | 1 | 4 |
| **Grand Total** | **7** | **4** | **5** | **4** | **6** | **10** | **36** |

The Study discovered and reviewed a great number of **essential factors, above and beyond the identified barriers, that also impact on healthcare investments** in countries. These are factors that are often context- and country-specific, therefore it may be of limited value to compare these across Europe.

The factors identified during this Study were categorised into nine groups that captured a **full range of social, governance, economic and strategic issues**:

- **Finance availability** – particular issues regarding finance availability vary strongly across countries: from a reducing term of lending, through a strong reliance on EU funding, to an expressed uncertainty about the role of International Financial Institutions.
- **Governance by government** – factors related to the governance of the government were commonly present, however, in each country they refer to different problems, such as an ongoing healthcare reform, the macroeconomic situation, intrusion of the private sector into the public domain.
- **Hospitals and hospital tariffs** – tariff systems are either too complex, problematic or undergoing reforms.
- **Human capital** – deficits in human capital were the most recognised category among all the categories, with issues referring either to lack of adequate policy, programme or project planning capacity, or to human resource shortages in various clinical areas.
- **Public-Private Partnerships (PPP)** – concerns about PPP were often linked to a negative perception of it rather than clear evidence (or absence of evidence) on its efficiency.
- **Private sector** – issues regarding private sector involvement in healthcare financing may refer to, for example, lack of engagement with private investors, strong regulation of scale and scope of the involvement of private actors.
- **Project appraisal and evaluation** – these methodologies are complex in the health sector generally (e.g. difficulty in assessing benefits) and, allowing for these difficulties, there is lack of a systematic and consistent approach even within a country.

- **Public health and other non-hospital sub-categories** – these are factors where there are twin issues: failure to recognise that they are human capital factors and not just operational, expensed items; and an almost universal failure to invest adequately in prevention and screening. There is also under-investment in primary care and paradoxically (ageing societies) even more so in long-term care. Some deprived groups – prison populations appear to be an indicative example – are still less well-served.
- **Strategies and priorities** – it was widely recognised that declared strategies and priorities are often inconsistent with identified needs and actual investment decisions.

## Detailed exploration of the approaches taken by six studied EU countries allowed identification of several **elements of best practice** in financing healthcare investments

Each of the six studied countries – Croatia, Finland, France, the Netherlands, Portugal, and Slovakia – approaches financing healthcare investments differently. Reviewing these approaches allowed the identification of various elements of best practice.

However, it also proved that **there might be no golden standard – solutions that work well enough to be considered "best" practices in one jurisdiction do not necessarily apply in the same way to other countries.**

Identified **best practices** were grouped into the following categories:

- **Health system enhancement** – investment is only advantageous if it is fitted somehow into its wider context of the whole healthcare system. Best practices within that category include public health and prevention measures that help to offload the healthcare system, and those which unblock hospitals but are outside of them – rehabilitation and palliative care, integration of care, development of primary care to prevent unnecessary hospital admissions, e-health solutions, human capital development.
- **Project appraisal and evaluation** – these are parts of the investment process which explicitly bring healthcare concerns together with economic ones about maximising efficiency. Despite its importance, comprehensive healthcare investment appraisal and evaluation are extremely difficult to perform properly and there is no accepted golden standard in the area. Elements of best practices include a systematic approach for identifying and selecting healthcare investments, and standardisation of evaluation procedures consistent with proper healthcare pathways.
- **Procurement development** – this has a bearing on the ways in which investment projects and programmes are managed, and the balance between centralising

functions in national bodies and cascading them to lower levels such as regional or municipal. Even though options that health authorities can explore are limited (due to the fact that the health sector in most countries is either public or publicly-controlled), some elements of best practices have been identified: bundling of small projects to achieve economies of scale (and scope), the use of dedicated real estate companies and centralisation of procurement.

- **Financing mechanism** – the funding of investments is in a sense a part of procurement processes. Best practice elements expressed by the various countries include, among others, capacity-based funding of equipment rather than traditional purchase or leasing, centralised financial guarantee mechanisms for the sector, institutions seeking credit ratings to give confidence in accessing new national as well as international funding, and direct financial support to non-tertiary hospitals to deliver specialised care.
- **Private sector involvement** – the involvement of the private sector was not particularly prominent among the identified country best practices. Elements of best practices could be taken as being, for example, the public-private role sharing of healthcare delivery, which is often an unexplored area in health policies.

## Recommendations

The recommendations draw on the following analytical dimensions from the Study:

- **Best practices**,
- **Gaps** – the analysis of healthcare capital stock at national level and its relationship with health outcomes measured by amenable mortality,
- **Barriers** – findings on the constraints applying to healthcare investment promoters, insufficient access to funding, regulatory problems, and political/stakeholder problems,
- **Essential factors** influencing healthcare investments.

The recommendations have been grouped into seven categories, judged to be the most significant in terms of supporting healthcare investment programmes, and covering a range of health, economic, governance and skill-based areas:

- **Physical capital stock** availability, capital efficiency and facilitating finance,
- **Public and population health**,
- **Strategies, priorities and governance**,
- **Project appraisal and evaluation** methodology, and its dissemination,
- **PPP** options, and the role generally of the **private sector**,
- Small **public health**, and other non-hospital, categories of investment,
- **Hospitals** and tariffs.

Recommendations are targeted at various stakeholders, including within the health sector itself, government at various levels and finance institutions.

**Physical capital stock, capital efficiency and finance** – the recommendations regarding physical capital stock, capital efficiency and finance focus on treating the healthcare sector as a "profit centre" rather than as a "cost centre", facilitating access to finance markets (credit ratings for health institutions' use of guarantee funds) and on the role of the IFIs.

There are indications that some countries, especially in EU-13, need simply to invest more at a macroeconomic aggregate level in their healthcare capital stock, others need to invest more efficiently, and some need to do both.

Shifting from traditional models of purchasing equipment to innovative models such as capacity-based funding could also benefit stakeholders of the healthcare system.

**Public and population health** – public health receives much less funding than is desirable, even though public health measures yield long-term returns. It therefore constitutes an opportunity for IFIs to develop a major new area of population health programme funding, for example by attaching finance for population health programmes to fixed capital funding.

Due to workforce constraints in delivering health care, training programmes would help to bring in new staff and upskill/raise productivity of the existing staff.

Project appraisal and evaluation for healthcare investments is a complex and non-obvious skill. Simplification of procedures, standardization and good practice should be encouraged, including by the IFIs and via Technical Assistance programmes.

**Strategies and priorities, governance by government** – since national strategies are often disconnected from the implementation of health investment, the recommendations evolve around complex and systematic treatment of different types of pursued investments in EU countries, This includes the development of investment plans consistent with health strategies and the assessment of the current state of the existing healthcare infrastructure.

It has been also recommended to shift to using patient pathway concepts for all types of healthcare planning and organisation and at the same time encourage the use of digital solutions to draw together provider levels.

There are debates about centralised/decentralised administration in health. There seems to be some evidence that for less-developed EU countries, centralisation is more efficient.

In case of changing market circumstances and contingencies, adjusting the scope and plan of investment (when reasonable) during the project execution would allow to better meet healthcare needs.

**Project appraisal and evaluation** – methodologies for health investment appraisal and evaluation are usually quite complex. Even standard good practice – lifecycle analysis and efforts to understand the "benefit" side can be used haphazardly or inconsistently. The EU and its institutions could take a lead in that matter by developing a dialogue and insisting on standardised procedures or best practices for (among others) economical and financial analysis: how to best evaluate, for example internal rate of return (IRR), economic rate of return (ERR) and social return on investment (SRoI).

**PPP, private sector** – some countries acted as a laboratory with different PPP models, however have not carried out adequate comparative evaluation to enable a judgement of whether one or the other model can be found to be superior. This sort of analysis would be beneficial before any further use of conventional PPP.

Several countries have extensive and successful use of private health facilities especially in the hospital sector. Given the good examples, the recommendations include offering finance by public funders to the private sector, especially when the private sector is strong, and pursuing governance, contract and tariff arrangements for private sector provision which involves sharing responsibility with the public sector.

**Small public health and other non-hospital categories** – hospital programmes will continue to dominate health investment in most countries. However, projects in the sub-sector and elsewhere will continue to reduce in size, duration and with an increased risk profile. This will require project bundling routes and terms adjusted to project lifecycle. Development of financial offers by funders with lifecycle adjusted financing or evergreen funding facilities which roll over short-term lending but itself last considerably longer could help with access to the sorts of finance which will increasingly be needed in the future.

**Hospitals and hospital tariffs** – even though the majority of healthcare spending will remain in hospitals (mainly due to the fact that it is the irreplaceable high fixed capital intensity healthcare production site), there will be a lessening of emphasis on the traditional acute hospital and more emphasis on out-of-hospital care. Finance should continue to flow to the hospital sector, however on an invest-to-disinvest basis, and ideally only for hospitals networked with other levels of care. It is recommended for EU countries to develop hospital investment plans with the assessment of the current state of hospital infrastructure. It is also recommended to incorporate prospective capital elements in pricing mechanisms, perhaps as a condition for major investment programmes.

**Table 1. Recommendations based on findings and conclusions from the Study.**

| **Physical capital stock, capital efficiency and finance** |
|---|
| **1.** Latvia, Lithuania, Romania, Bulgaria, Hungary, Slovakia, Estonia, Croatia, Czech Republic should focus both on raising annual healthcare capital investment to boost their stock, and increasing the efficiency with which they use what they have |
| **2.** Poland, Greece, Cyprus, Spain, Italy, Slovenia, Malta, Ireland, Portugal could benefit from increased investment |
| **3.** Finland, Denmark, Austria, Germany, Luxembourg should focus more on raising the efficiency of their healthcare system than investing in new stock |
| **4.** Awareness-raising that investment in health care is a human capital issue with long-term returns |
| **5.** Encouragement of health institutions to seek ratings from the credit rating agencies |
| **6.** Development of guarantee funds to support bank lending |
| **7.** (Joint) programmes from the EIB/CEB/EBRD and NPBs on healthcare lending or other finance |
| **8.** Shift from traditional models of purchasing and leasing medical equipment from vendors to more innovative models, such as capacity-based funding (when beneficial) |
| **Public and population health** |
| **9.** Provision of funds for training programmes for doctors, nurses, allied professionals etc. |
| **10.** Development of e-health infrastructure |
| **11.** Inclusion of funding and practice development for remote community/primary care measures (salary enhancement, equipment provision) probably tied into the main, large urban primary care programmes |
| **12.** Enhancement of cross-country transfer of know-how and expertise by promoting knowledge about availability of financial sources (also other than the EU funds), best practices in appraisal methodologies and financing schemes (e.g. by provision of funds for training programmes for project development staff, exchange programmes, direct contact/relationship with central and local governments, insurers, private stakeholders etc.) |
| **13.** Automatic inclusion (when desirable) of technical assistance in any capital developments funded by ESIF/EFSI/EIB/CEB/EBRD/NPBs etc. |
| **14.** Simplification of procedures for obtaining funding – clearer rules and tools should result in workload reduction and optimisation |
| **15.** Popularisation of the fact that population health should be treated as an investment, not consumption, item by governments |
| **16.** Provision of funds for population health programmes |
| **17.** Attaching hypothecated finance for population health programmes to fixed capital funding |
| **18.** Exploration of social impact bond structures for population health funding by the private sector including charities |
| **19.** Launch of pan-European population health programmes/pan-European monitoring of population health programmes |
| **20.** Reconsideration by the EU and IFIs of the eligibility rules to allow investment in health of underserved populations (e.g. prison health – prison inmates constitute a universally deprived and sick population, including addictions and increasing problems of ageing) |

**Strategies and priorities, governance by the government**

21. Emphasis on consistency among countries with respect to the declared strategic investment priorities and the actual investments pursued
22. Assessment of the current state of healthcare infrastructure (with distinction of investment sub-categories) in each of the EU countries that would be an input for the development of health strategies and investment plans
23. Development of health strategies by countries that would also include an infrastructural (investment) plan consisting of roadmaps of needs and projects together with estimation of associated costs and possible sources of funding (including long-term funding)
24. Development of a monitoring tool for tracking changes and developments in each country regarding health needs, strategies/priorities, reforms, state of healthcare infrastructure, actual investments etc.
25. Usage of centralised, rather than local/regional, structures for health systems in less-developed states followed by funding flows that will need to be managed to match the degree of centralisation
26. A shift to using patient pathway concepts for all types of healthcare planning and organisation, avoiding vertical decision-making silos (probably including suitably-oriented payment mechanisms)
27. Encouraging the use of IT to draw together provider levels and localities
28. Adoption of centralised procurement procedures in less-developed states
29. Provision of funds for adequate and detailed planning and scoping of investments
30. Enabling modification of the contracted investments (including scope, cost estimates, scheduling etc.) in defined milestones of the project (taking into account the risks associated with the abuse of project executors)

**Project appraisal and evaluation**

31. Opening by the EU of an extensive dialogue with countries about health investment appraisal methodologies, including IRR/ERR/SRoI etc.
32. Requirement in funding schemes for disciplined project appraisal at common national standards within the country concerned
33. Development of a widely-available methodology for cost-benefit analysis of investments that would integrate health impacts, productivity and cost concerns

**PPP, private sector**

34. Development of effective evaluations of PPP projects and/or comparative analysis of different PPP models (approaches), including economic and clinical results
35. Offer of finance by public funders to the private sector, especially when the private sector is strong (however only with imposition of stringent governance guidelines, including public service delivery obligations)
36. Orientation of project choice and finance towards wider (service delivery-inclusive) PPPs, along the model of the German private hospital chains
37. Governance, contract and tariff arrangements for private sector provision which involve sharing responsibility with the public sector

| Small public health and other non-hospital categories |
|---|
| **38.** Development of financial offers by funders with life-cycle adjusted financing/term or using evergreen structures (rolling over short-life tranches) |
| **39.** Usage of different funding routes, such as real estate companies, partnerships etc. |
| **Hospitals and hospital tariffs** |
| **40.** Continuation of the flow of finance to the hospital sector, however on an invest-to-disinvest basis, and in practical terms only for hospitals networked with other levels of care |
| **41.** Development of a hospital investment plan that would consider the assessment of the current state of hospital infrastructure in each of the EU countries |
| **42.** Exerting pressure by funders on countries to incorporate a prospective capital element in pricing mechanisms, perhaps as a condition for major investment programmes |

*Source: Based on the situation in 28 EU countries and in-depth analysis of the situation in six selected countries.*

# 1 Gaps in healthcare investment

## 1.1 Gaps resulting from the relationship between healthcare assets and health outcomes

In order to identify gaps in healthcare investment in the 28 EU Member States, available Eurostat data have been analysed with regards to two dimensions:

- **Healthcare assets** (healthcare capital stock), and
- **Health outcomes** (amenable mortality rate).

Furthermore, empirical observations have been described using a non-linear regression plot between amenable mortality rate and capital stock per capita in all EU Member States.

### Healthcare assets measured by healthcare capital stock

Healthcare infrastructure is a physical dimension, and can be quantified and compared country by country by the value of assets (such as buildings, equipment, IT systems and other intangible elements) in the healthcare system (e.g. per capita). For the purpose of this Study **capital stock of the healthcare system** (including infrastructure like hospitals and clinics, medical equipment, e-health) has been analysed – that is, the **accumulated result over time of additions to the stock (investment) and deductions from it (e.g. depreciation).**

For each EU country **healthcare capital stock per capita** has been calculated as the total value of healthcare assets in the country in 2015 divided by population in the country in 2015. The total value of healthcare assets has been quantified on the basis of two tables

from Eurostat.[2] In order to arrive at capital stock per capita the population of all EU countries has been obtained from Eurostat.[3] Capital stock per capita was further related to healthcare system performance.

**Table 2. Gap assessment – healthcare capital stock between EU countries and the EU average (2015).**

| | Healthcare capital stock per capita in 2015 (EUR) | Difference between healthcare capital stock per capita in country and the EU average (EUR) | Difference between healthcare capital stock per capita in country and the EU average (%) |
|---|---|---|---|
| Luxembourg | 6 164 | 4 055 | 192% |
| Germany | 5 637 | 3 527 | 167% |
| Austria | 5 498 | 3 388 | 161% |
| Denmark | 5 120 | 3 010 | 143% |
| Netherlands | 4 023 | 1 913 | 91% |
| Sweden | 3 580 | 1 470 | 70% |
| Finland | 3 432 | 1 322 | 63% |
| Belgium | 3 411 | 1 301 | 62% |
| United Kingdom | 2 518 | 409 | 19% |
| France | 1 955 | -155 | -7% |
| Portugal | 1 923 | -187 | -9% |
| Ireland | 1 700 | -410 | -19% |
| Malta | 1 639 | -471 | -22% |
| Czech Republic | 1 595 | -515 | -24% |
| Slovenia | 1 495 | -615 | -29% |
| Italy | 1 467 | -643 | -30% |
| Spain | 1 137 | -973 | -46% |
| Slovakia | 1 006 | -1 104 | -52% |
| Estonia | 887 | -1 223 | -58% |
| Cyprus | 778 | -1 332 | -63% |
| Croatia | 778 | -1 332 | -63% |
| Latvia | 778 | -1 332 | -63% |
| Hungary | 712 | -1 398 | -66% |
| Greece | 473 | -1 637 | -78% |
| Romania | 393 | -1 717 | -81% |
| Poland | 364 | -1 746 | -83% |
| Lithuania | 339 | -1 771 | -84% |
| Bulgaria | 275 | -1 835 | -87% |
| EU average | 2110 | | |

*Source: Own calculations based on Eurostat data.*

[2] 1) Cross-classification of fixed assets by industry and by asset – stocks (Table: nama_10_nfa_st)
2) General government expenditure by function – COFOG (Table: gov_10a_exp)

[3] Eurostat data on population on 1 January by age and sex in table: demo_pjan

The table above presents an assessment of the gap in the healthcare capital stock per capita in 28 EU Member States relative to the EU average in 2015.

The cumulative deficit of healthcare capital stock for 18 EU countries (Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia, Slovenia, Spain) has been calculated as a sum of negative deviations from the EU average for their entire populations. Even though France showed a deficit too, the calculation excluded France, since it is the best performing country in terms of amenable mortality. **The cumulative deficit of healthcare capital stock in these 18 EU countries amounted to 262 billion EUR in 2015.**

## Health outcomes measured by amenable mortality rate

The overarching goal of each country's healthcare system should be to provide equally-accessed quality care and services in order to obtain, given the available resources, as good health outcomes as possible. The assessment of the general performance and quality of healthcare systems can be therefore quantified with a health outcome measurement. **The amenable (or avoidable) mortality rate is a measurement generally recognised as reliable for health outcomes assessment.** According to Eurostat, the **amenable mortality rate is a rate of deaths that could be avoided, which means they would not have occurred if timely and effective healthcare had been provided** (i.e. a death can be considered as amenable if it could have been avoided through optimal quality health care).[4]

Figure 1 below presents amenable mortality rates for the 28 EU Member States in 2015 per hundred thousand inhabitants. Measuring by amenable mortality rate, France proves to have the best performing healthcare system among EU countries in 2015, with the rate amounting to 78 amenable deaths per hundred thousand inhabitants, which is lower than the EU average by almost 40%.[5]

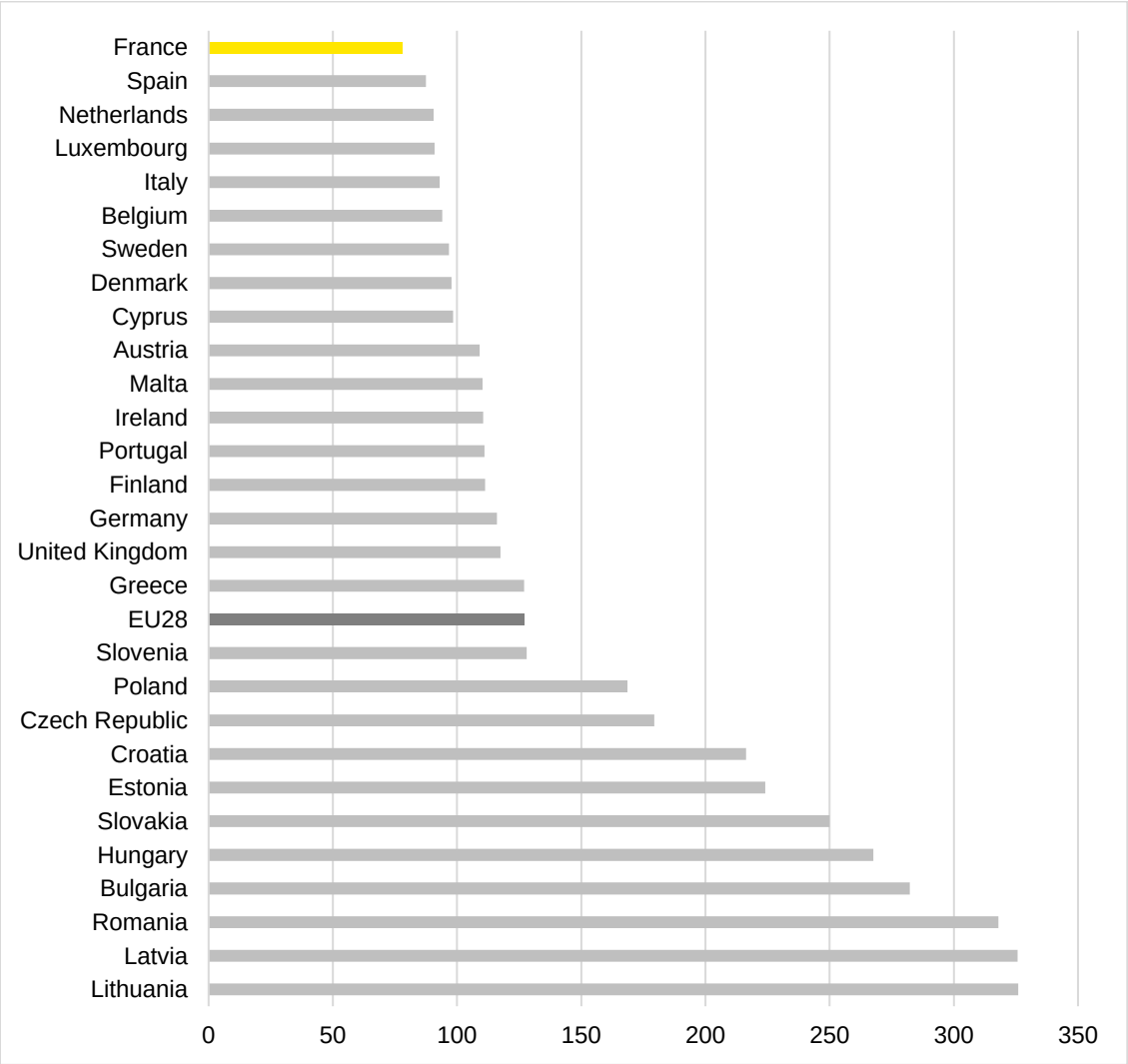
The amenable mortality index for all countries of the EU has been obtained from the Eurostat table "Amenable and preventable deaths of residents".[6]

[4] http://ec.europa.eu/eurostat/statistics-explained/index.php/Amenable_and_preventable_deaths_statistics#cite_note-1

[5] There are other assessments of the performance of a health system, but they involve contentious weightings of different achievement areas; amenable mortality is simpler to interpret. Note that researchers have not developed comparable measures of avoidable morbidity (i.e. the situation is comparable to that mentioned earlier, where there are burden of disease forecasts for mortality but not morbidity).

[6] Table: hlth_cd_apr

**Figure 1. Amenable mortality rates in the EU in 2015 (per hundred thousand inhabitants).**

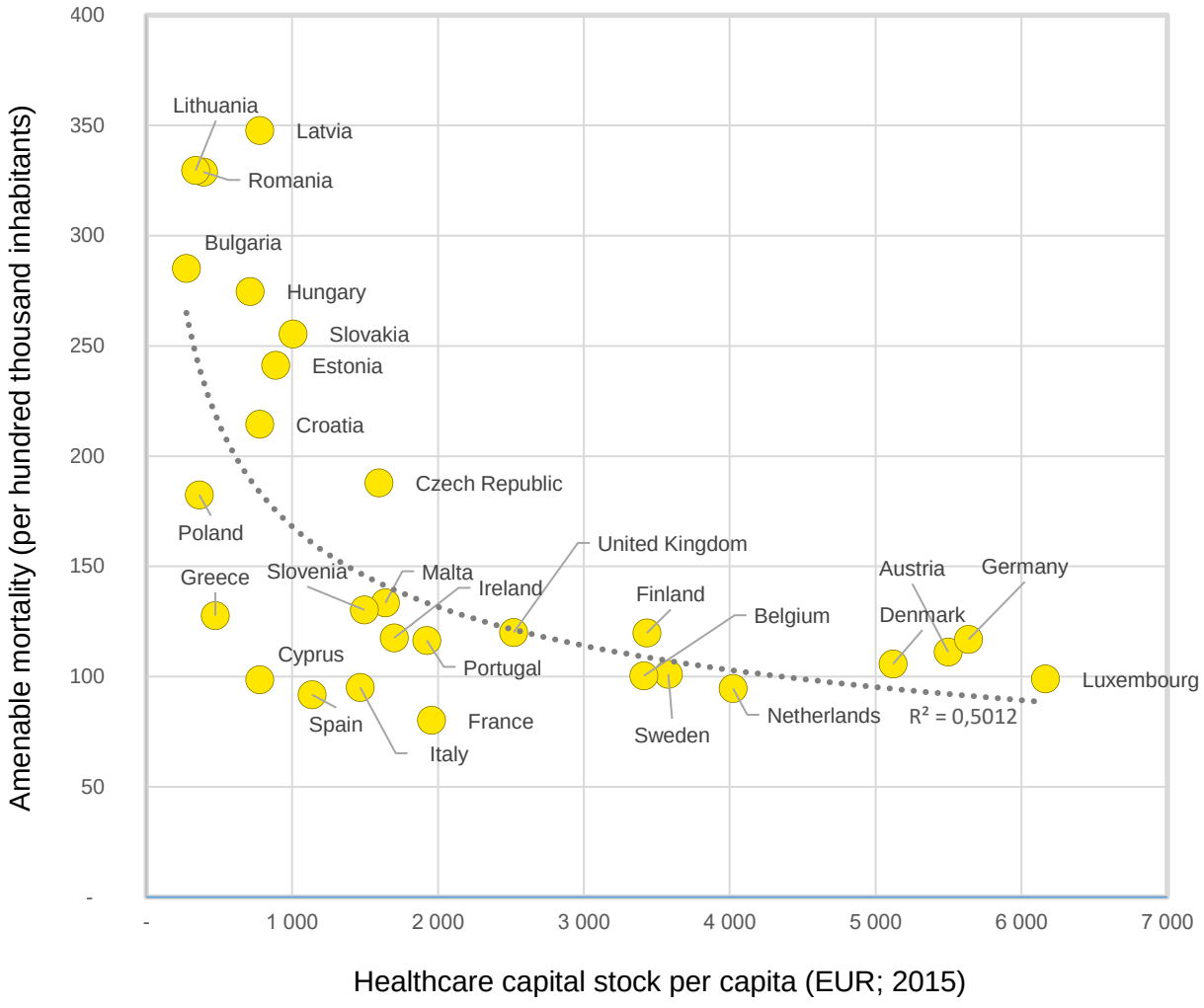



*Source: Eurostat.*

## Relationship between healthcare assets and health outcomes

One of the tasks during the Study was to find a relationship between the value of healthcare assets and health outcomes. In order to test whether this relationship can be observed, **statistical dependence between the value of healthcare assets per capita and health outcomes has been investigated**. The results are presented in Figure 2 below.

**Figure 2. Empirical observations described by a non-linear regression plot between amenable mortality rate (average 2011–2015; per hundred thousand inhabitants) and healthcare capital stock per capita (in 2015) in countries of EU28.**




*Source: Own calculations based on Eurostat data.*

In the figure above, countries of the EU28 have been mapped with respect to their levels of amenable mortality per hundred thousand inhabitants at their given healthcare capital stock per capita (total value of healthcare assets in the country per person). Using regression estimation, the graph indicates a **reverse non-linear dependence between the level of healthcare capital stock per capita and amenable mortality.**

**The dependence illustrated in the figure above does not prove causation, nonetheless it indicates that some degree of relationship between the level of capital stock per capita and amenable mortality is probable.**

The negative slope of the curve in Figure 2 gives a clear reverse statistical dependence between the level of healthcare capital stock per capita and amenable mortality, i.e. according to the evidence provided, **all countries could expect some gain in amenable mortality if they would invest more in healthcare assets**. However, the curvilinear shape

of the best-fit line in Figure 2 indicates **decreasing marginal benefits** (measured by amenable mortality) from investing in health care the higher the endowment of capital stock. In other words, if two countries with different levels of capital stock per capita, were to invest equal amounts of resource in health care, the country with the initially higher level of healthcare capital stock per capita would be expected to decrease its index of amenable mortality by a lesser amount compared to the country with an initially lower level of healthcare capital stock per capita.

Moreover, analysis of Figure 2 provides suggestive insights on the **efficiency of healthcare investments** relative to the "optimal" level of capital stock per capita.

The trend line in Figure 2 indicates the expected value of a country's rate of amenable mortality at any given level of capital stock per capita**. Countries which are above the trend line are underperforming,** i.e. have a higher (i.e. worse) than expected level of amenable mortality. Simultaneously, **countries which are below the trend line are outperforming in this regard.** Consequently, bearing in mind the statistical dependence between capital stock per capita and amenable mortality, one might conclude that countries which are above the trend line are not investing in health care as effectively as expected, and should instead focus on increasing the efficiency of their healthcare investments (i.e. improve the extent to which any particular level of healthcare investments results in improvement of health outcomes).

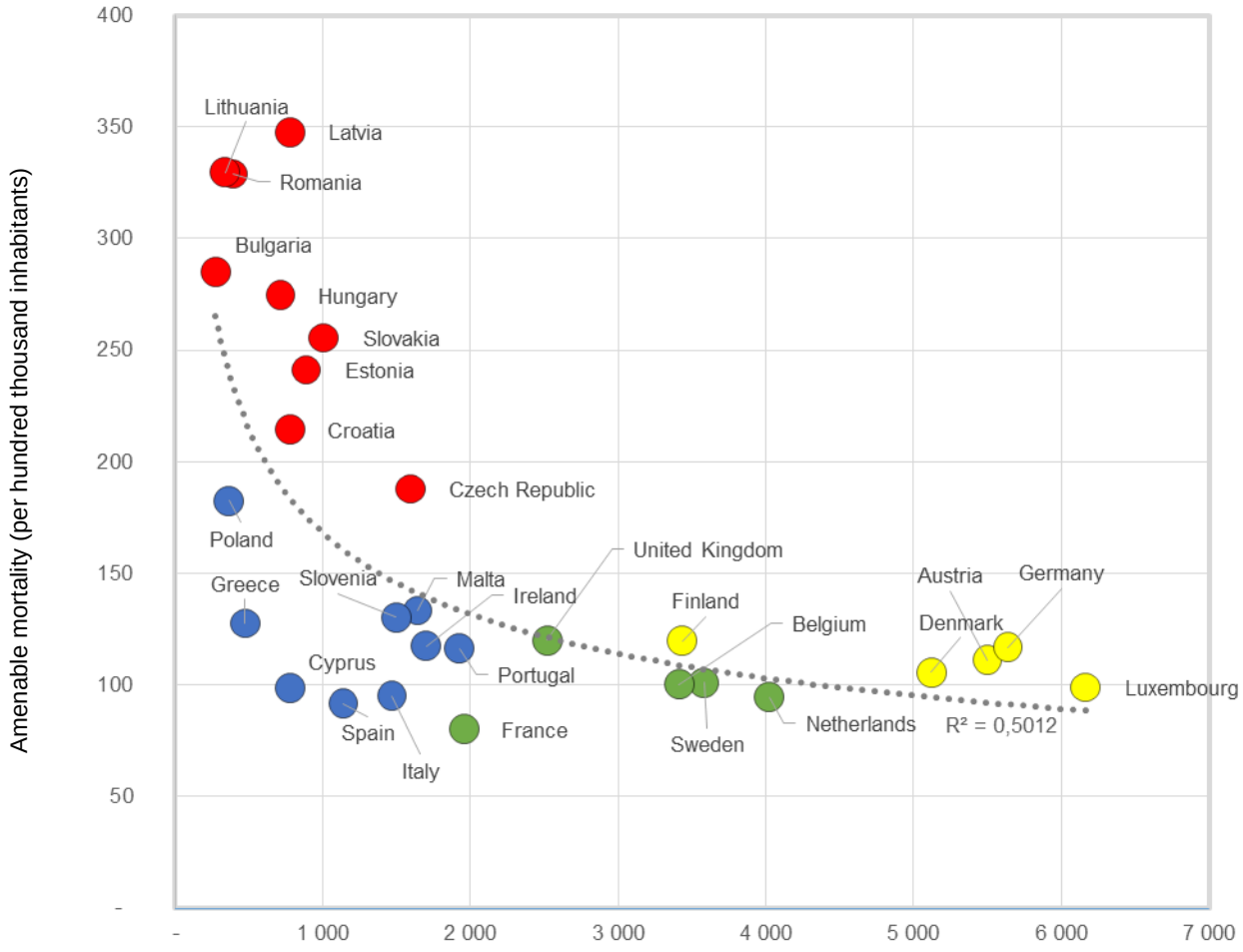
In addition, as mentioned above, the ultimate objective of any healthcare system is to maximise health outcomes (for example, as measured by amenable mortality). According to Figure 2, health outcomes (amenable mortality) depend on the level of capital stock per capita (put simply "the more healthcare capital stock per capita, the better the health outcomes"). However, the curvilinear shape of the trend line indicates that this is not monotonic – that is, **countries which have more healthcare capital stock per capita than for example France do not obtain significant increases in amenable mortality by having increased levels of capital stock**.

Bearing these two conclusions in mind, an intuitive **four-way grouping of the EU countries has been done with respect to:**

- **Their position in Figure 2 relative to the trend line,**
- **Their position in Figure 2 relative to France** (the benchmark country according to the amenable mortality rate).

Results of this grouping are included in Figure 3 below.

**Figure 3. Empirical observations described by a non-linear regression plot between amenable mortality rate (average 2011–2015) and healthcare capital stock per capita (in 2015) in countries of EU28 including grouping.**




*Source: Own calculations based on Eurostat data.*

The group marked in **red** includes countries that are situated in the graph to the left of France (i.e. they have less healthcare capital stock per capita than France) and above the trend line (i.e. they also invest in health care less effectively than expected on the basis of the trend line). **These countries, in order to obtain substantial gains in amenable mortality, should focus unambiguously both on increasing their level of healthcare capital stock and on increasing the efficiency of their healthcare capital stock**.

The group marked in **blue** includes countries which are situated in the graph to the left of France (i.e. have less healthcare capital stock per capita than France) and below the trend line (i.e. invest in health care more effectively than expected on the basis of the trend line). **These countries might obtain substantial gains in amenable mortality by increasing the level of their healthcare capital stock. Efforts focused on increasing the efficiency of healthcare investment are expected to provide limited gains in amenable mortality in these countries.**

The group marked in **yellow** includes countries which are situated in the graph to the right of France (i.e. have more healthcare capital stock per capita than France) and above the trend line (i.e. invest in health care less effectively than expected on the basis of the trend line). **These countries might obtain larger gains in amenable mortality by focusing on how to increase the efficiency of their healthcare investments. Further increases in healthcare capital stock per capita are expected to provide limited or no gains in amenable mortality.**

The group marked in **green** includes countries for which further increases in healthcare capital stock are expected to provide limited gains in amenable mortality, and where the investment efficiency is quite high. **Any need for healthcare investment in these countries results primarily from the drive to adjust healthcare infrastructure to changing healthcare demands, and infrastructure maintenance (refurbishing/ replacement of decapitalised assets). Nonetheless, these countries might also modestly decrease their rate of amenable mortality by increasing their level of capital stock.**

**The analysis presented above is believed to be intuitively plausible and relatively robust, even though confounders are likely to exist**. For example, several of the low capital stock, high-efficiency countries from group blue are in the so-called “olive oil belt” where diet etc. is likely to be a contributor to the health outcomes, proving that the healthcare system is not the only determinant of health. It is believed that this sort of capital stock analysis has not been attempted before; and calculations of amenable mortality have been left as demonstrating varying levels of performance without linking them to other factors.

## 1.2 Gaps resulting from declared strategic priorities and actual healthcare investment

This section serves to explore the **balance between the national priorities regarding healthcare investments, declared in strategic documents by each EU member state, and how these priorities are reflected in actual investments pursued by those countries**. This is based on an inventory of identified major healthcare investment projects ongoing or planned for launch after 2015. It would be common sense that national healthcare investment priorities should set the direction for investments and be reflected in specific actions. However, **the Study has indicated that often there is only a small connection, or none at all, between stated investment priorities and the pattern of investment projects**, by number or spending volume.

### Healthcare investment priorities by country

**Healthcare investment priorities have been derived from strategic documents** identified for each EU country based on desk research, including the analysis of currently applicable (including 2018) investment policies. These are published by national investment bodies, such as:

- Ministries of Health,
- Ministries of Finance,
- Associations of Hospital Executives,
- Banks,
- European Agendas (this part includes investment priorities resulting from sections of EU level strategies, which are dedicated to specific countries).

The healthcare investment priorities resulting from the analysed strategies have been mapped according to the types of healthcare investment identified for the purpose of this Study, i.e. investments in:

- Hospital facilities,
- Medical equipment,
- Hospital facilities and medical equipment,
- Primary care facilities,
- Long-term care facilities,
- E-health,
- Other types of healthcare investments (including, among others, public health measures such as health promotion or disease prevention, health workforce training and new care models).

**Table 3. Healthcare investment priorities mapped by country and healthcare investment sub-category.**

| Country | Hospital facilities | Medical equip. | Hospital fac. & med. equip. | Primary care facilities | Long-term care facilities | E-health | Other | Total |
|---|---|---|---|---|---|---|---|---|
| **Group red** | **8** | **5** | **5** | **7** | **4** | **8** | **8** | **45** |
| Bulgaria | ✓ | ✓ | ✓ | | | ✓ | ✓ | 5 |
| Croatia | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 7 |
| Czech Republic | ✓ | | | ✓ | | ✓ | ✓ | 4 |
| Estonia | ✓ | | | ✓ | ✓ | ✓ | ✓ | 5 |
| Hungary | ✓ | | ✓ | ✓ | | ✓ | | 4 |
| Latvia | | | | ✓ | | ✓ | ✓ | 3 |
| Lithuania | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | 6 |
| Romania | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 7 |
| Slovakia | ✓ | ✓ | | | ✓ | | ✓ | 4 |
| **Group blue** | **4** | **2** | **3** | **7** | **1** | **6** | **4** | **27** |
| Cyprus | | | | | | | ✓ | 1 |
| Greece | | | | ✓ | | ✓ | ✓ | 3 |
| Ireland | ✓ | | | ✓ | ✓ | | | 3 |
| Italy | ✓ | ✓ | ✓ | ✓ | | ✓ | | 5 |
| Malta | | | | ✓ | | ✓ | | 2 |
| Poland | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | 6 |
| Portugal | | | | ✓ | | ✓ | | 2 |
| Slovenia | | | | | | | ✓ | 1 |
| Spain | ✓ | | ✓ | ✓ | | ✓ | | 4 |
| **Group green** | **1** | **2** | **0** | **2** | **0** | **5** | **4** | **14** |
| Belgium | | | | | | ✓ | ✓ | 2 |
| France | ✓ | ✓ | | | | ✓ | ✓ | 4 |
| Netherlands | | ✓ | | ✓ | | ✓ | ✓ | 4 |
| Sweden | | | | | | ✓ | | 1 |
| United Kingdom | | | | ✓ | | ✓ | ✓ | 3 |
| **Group yellow** | **3** | **1** | **2** | **2** | **1** | **4** | **3** | **16** |
| Austria | ✓ | | ✓ | | | | ✓ | 3 |
| Denmark | | | | | | ✓ | ✓ | 2 |
| Finland | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 6 |
| Germany | | | | | | ✓ | | 1 |
| Luxembourg | ✓ | | ✓ | ✓ | | ✓ | | 4 |
| **Total** | **16** | **10** | **10** | **18** | **6** | **23** | **19** | **102** |

*Source: Desk research.*

The table above includes a synthesis of healthcare investment priorities by country drawn from strategic documents for each type of healthcare investment and with respect to the four-way grouping of countries as presented in the previous section.

The most common priority in the EU countries is **e-health** – in 23 out of 28 countries this category has been recognised as a priority area for healthcare investments. E-health is followed by the **"other" category of healthcare investments** (such as disease prevention programmes and health workforce training) – 19 countries have declared this category as a priority in their strategic documents. **Primary care facilities** are the third most important category (18 EU Member States).

Despite a relatively small number of declared priorities in **hospital facilities, medical equipment and the combination of the two**, the majority of projects are nevertheless implemented within these two areas (e.g. construction, reconstruction and extension of hospitals).

Interestingly, in the context of ageing societies, the least significant stated investment priority is **long-term care** – investment in these types of facilities has been declared by only six EU countries.

Referring to the content of the previous section, countries from group red are those needing to invest more and improve the efficiency with which they use capital. Countries from group blue should focus the most attention on increasing their capital stocks through investment. Group green has no clear focus and countries from group yellow do not on the face of it require significant increases in healthcare capital availability but do need to increase their relative efficiency.

Perhaps not surprisingly, countries from group **red** have the biggest number of declared priorities of all the country groups – on average each country has declared five priorities out of seven recognised categories. This is consistent with the Study findings – these countries need to augment their capital stocks, and plausibly could perceive that a route to the required greater efficiency is to embed new structures and practices in new capital stock.

The countries from group red prioritise mostly hospital facilities, e-health and other healthcare investments, followed also by primary care facilities. The least prioritised area is long-term care.

Each country from group **blue** has prioritised on average three areas of healthcare investment. The most important priorities for countries from group blue are primary care facilities and e-health. The least recognised priority areas are long-term care, medical equipment and hospital facilities.

Each country from group **green** has also prioritised on average three areas of healthcare investment. All the countries from that group prioritised e-health, followed by other healthcare investments. However, and as with the other country groups, none of the countries declared long-term care facilities to be their priorities for investing. Also, rather scant attention is paid towards prioritising investments in hospitals and medical equipment for countries from this group.

Similarly to group blue and green, each country from group **yellow** has prioritised on average three areas of healthcare investment. The most common priority for that group is e-health, followed by hospital facilities and other healthcare investments. The least recognised priorities for investing in health care among countries from group yellow are medical equipment and long-term care.

## Healthcare investment priorities vs. inventory of identified projects

**Chart 1. Total value of the inventory of healthcare investment projects (ongoing or planned for launch after 2015) and share of declared priorities by investment sub-categories.**


*Source: Desk research.*

Chart 1 above collates a **synthesis of healthcare investment priorities by country recognised in strategic documents with the actual spending across EU Member States.** Priorities are captured for each sub-category as a share of the total number of declared priorities. The actual spending is presented by recognised sub-categories, as the value of the inventory of identified projects that as of 2015 were still ongoing or planned for

launch.[7] **The high-level conclusion resulting from the abovementioned data set could be that prioritisation of particular sub-categories of healthcare investments and actual spending on them are not directly interdependent.**

**The reasons behind such a conclusion could be many and various. Firstly, priorities resulting from health policies of countries do not necessarily translate into actual spending** on them, due to a probable lack of binding decisions and formal requirements to fulfil the premises of health policies.

**Secondly, there could be a lag between the time investment priorities are developed and declared, and the period of actual investment decisions** and implementation of projects.

**Thirdly, and probably most important, the priorities are not weighed by the capital intensity of investments in particular sub-categories** – for instance, hospitals are more capital-intensive than e-health or other healthcare investments, such as disease prevention programmes and health workforce training. Therefore, the share of spending on particular sub-categories of healthcare investment should not be equally distributed, but should rather be based on an individual capital intensity of the identified investment areas.

Whatever the reason, the share of value of investment in **hospital facilities** is the biggest, and accounted for slightly over 50% of the total value of identified projects, whereas the share of priorities among all the declared priorities accounted for as little as 16% (which made it the fourth most important category). As mentioned above, the intuitive interpretation of this could be that, even though **some countries do not claim to prioritise investment in hospital facilities, they still have to invest large amounts of money in such facilities, mostly due to their high capital intensity and the need for renovation and modernisation of the current decapitalised infrastructure.** Capturing hospital facilities along with two other sub-categories – medical equipment and hospital facilities and medical equipment (a combination of the two) – nuances these conclusions. The three mentioned sub-categories together account for two thirds of the total value of investment spending and over one third of all priorities, which could be interpreted as countries quite strongly prioritising investment in hospital infrastructure including medical equipment and consequently that area consumes the vast majority of investment spending.

[7] It is important to note that the content and values of the inventory of investment projects is non-exhaustive and indicative, i.e. not all investment projects realised in the analysed time frame in the EU are covered in this Study. Therefore, on the basis of this inventory, only hypotheses (and not conclusions) can be stated. These hypotheses can be considered as probable, in the light of other information mentioned in this Study. However, further analysis would be required to conclusively test whether these hypotheses are true or false.

Furthermore, the second biggest category in terms of value of projects is **e-health** – almost 20% of value of identified projects is attributed to e-health and this category is also the most prioritised one among EU countries (23%). This means that, in general, **e-health is recognised as an important investment item across the EU and consequently the Member States invest relatively large sums of money in it.**

**The "other" healthcare investment** (**such as disease prevention programmes and health workforce training) is the second most prioritised sub-category** (19% share), however, as little as 8% of the total value of projects is attributed to that area. This could be related to, among other factors, the relatively **low cost intensity of such projects – and the perception of this category as a cost/consumption item for the system rather than an investment**.[8]

Similarly to "other" healthcare investment, **primary care also seems to be prioritised, yet underfinanced** – this area is the third most prioritised category (with 18% share of all priorities), but with the 4% share of value of projects. This, among others, could result from the **relatively low capital intensity of investment in primary care facilities** (little advanced medical equipment, no operating rooms, no care beds etc.), fragmentation with regards to time, location and ownership of such facilities (resulting in many small investment projects) and a lag between prioritisation of the category and implementation of projects.

**Long-term care facilities neither seem to be a priority area for healthcare investment in European countries, nor an important item in the inventory of identified projects.** The share of value of projects accounted for as little as 4%, whereas the priorities attributed to long-term care amounted to only 6%. The outcome of a few strategic and financial actions within this area could be explained by multiple factors. Firstly, even though there is an evidence-based (ageing society etc.) need for development of the long-term care sector, **there could be a lag in the response to addressing this issue in health policies and strategies resulting, for example, from the hardship of introducing and raising the importance of a new priority area into a sector that is already facing multiple challenges.** Secondly, there could be **little linkage between health and social policies** – responsibility for the area of long-term care is not clearly assigned to particular state authorities and therefore this area is often omitted in current strategies labelled as "health". Thirdly, **long-term care could be often provided by, but contained, in a hospital facility** (investment projects typically concern whole facilities), or the market could be fragmented with multiple private facility owners.

[8] It is important to note that health care is often considered purely as an expenditure item. In this sense, public health measures are still further de-prioritised as an ongoing, consumption item – despite their long-lived nature and potentially high rates of return.

## Healthcare investment priorities vs. inventory of identified projects by country groups

**Table 4. Distribution of value of projects and priorities among country groups.**

| Country group | Share of value of projects of a country group in the total value in all groups | Share of priorities of a country group in the total number of declared priorities in all groups |
|---|---|---|
| **Group red** | 13% | 44% |
| **Group blue** | 16% | 26% |
| **Group green** | 39% | 14% |
| **Group yellow** | 32% | 16% |

*Source: Desk research.*

With respect to the country groupings, the table above presents the distribution of value of identified projects (that as of 2015 were still ongoing or planned for launch) and priorities among the respective colour groups.

Almost 40% of all identified projects belong to countries from the group **green**: Belgium, France, Netherlands, Sweden and the UK. This is despite the fact that the analysis carried out within this Study cannot point to an immediate need for investment, or efficiency drives. However, this group declared the fewest healthcare investment priorities – only 14% of all declared priorities.

Group **yellow**, consisting of Austria, Denmark, Finland, Germany and Luxembourg, is attributed one third (32%) of the total value of identified projects, so less than group green, but slightly more in terms of priorities – 16% share in the total number of priorities.

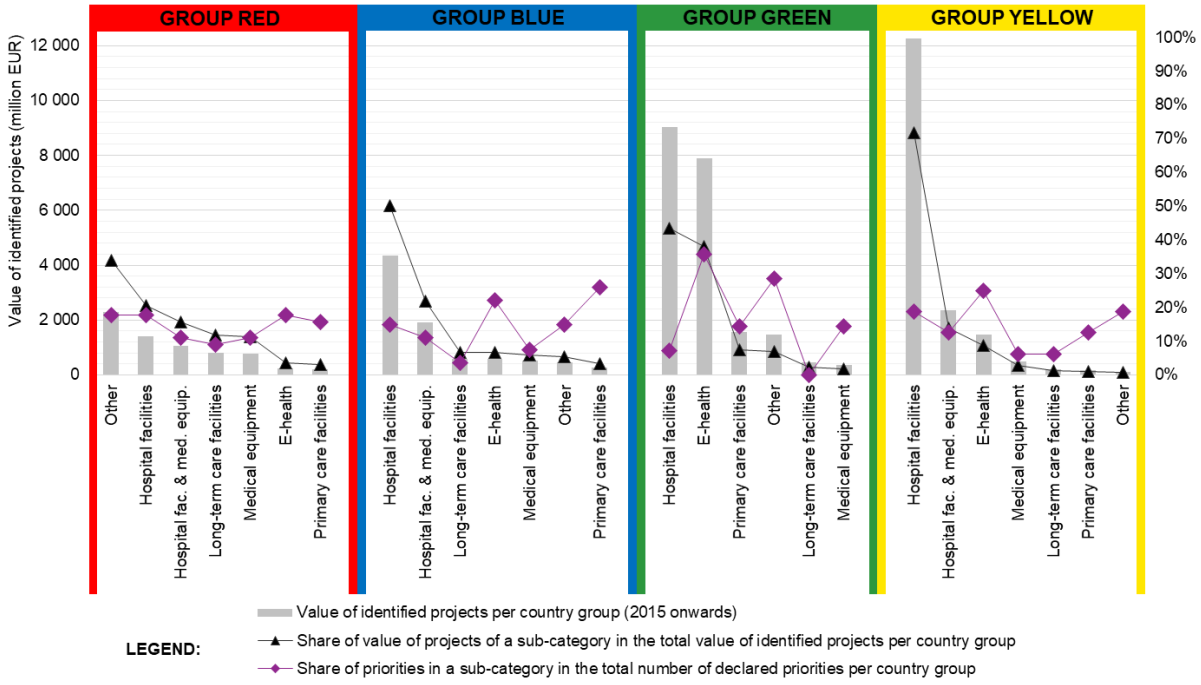
Group **blue** (Cyprus, Greece, Ireland, Italy, Malta, Poland, Portugal, Slovenia and Spain) is the third group in order with regards to the value of projects (16%) and the second with respect to priorities (26%).

The country group **red** (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Romania and Slovakia) that is attributed the smallest value of projects (13%), declares at the same time the biggest number of priorities – 44% of the total number of them in all colour groups.

**This reverse order and discrepancy in the proportions of total values of projects and number of declared priorities within colour groups could be interpreted in multiple ways**. For example, countries from group red might be in a position of high demand for healthcare investments and enthusiastic about including all needs in the current strategic documents, however, the obvious explanation – and almost certainly true – is that they also evidently have limited budgets at their disposal, resulting in either small or almost no investment in some areas. On the other hand, countries from group green (with the highest value of projects and least priorities) might have either more narrow needs in terms of areas

of healthcare investment or a more systematic approach towards developing strategies and health policies, having at the same time more funds to cover their investments.

**Chart 2. Total value of the inventory of healthcare investment projects (ongoing or planned for launch after 2015) and share of declared priorities by investment sub-categories and country groups.**




*Source: Desk research.*

The chart above captures country groups with regards to healthcare investment priorities recognised in strategic documents and the actual value of the inventory of identified projects that as of 2015 were still ongoing or planned for launch. The shares of value of projects and the shares of priorities add up to 100% for each country group, hence giving an oversight of major focuses of particular country groups in parallel on priorities and actual investment.

**Observing all country groups' patterns, the high-level conclusion about strategy and action inconsistency could be similar to the case of Chart 1 – prioritisation of particular sub-categories of healthcare investments and actual spending on them are not directly interdependent.**

With reference to group **red**, countries from that group prioritise individual sub-categories quite equally – hospital facilities, e-health, primary care facilities and other healthcare investment are the group's equal top priorities, which additionally does not necessarily translate into equal distribution of spending on these areas of investment. Indeed, the two biggest shares of values of projects, which jointly hold over 50% of the total value, are assigned to "other" healthcare investment (34%) and hospital facilities (21%). However, even though e-health and primary care facilities are also top priorities for group red, the shares of value of projects within these areas in the total value of identified projects are as

little as 4% and 3%, respectively. Looking from a different perspective by grouping the three sub-categories together – hospital facilities, medical equipment, hospital facilities and medical equipment – almost half (48%) of the total value of projects and 40% of priorities are attributed to these three areas.

For group **blue**, the inconsistencies between stated priorities and actual spending seem even larger. For the top two priorities – primary care facilities (26% of all priorities) and e-health (22% of all priorities) – constituting together almost half of the recognised priorities, the shares of project values are rather small – 3% and 7%, respectively – so together 10% of the total value of projects. Additionally, by grouping three categories together – hospital facilities, medical equipment, hospital facilities and medical equipment – the combined shares of project values reach almost 80% with the assigned priorities to these areas totalling 33%.

Group **green** prioritises mostly e-health (36% of all priorities) and other healthcare investment (29%). In terms of translating these priorities into investment, only spending on e-health is consistent with its prioritisation – 38% of the total value of identified projects for group green is attributed to e-health, whereas to other healthcare investment, the second biggest priority, only 7%. The biggest share of the investment spending (44%) goes to hospital facilities, which are not an important priority for countries from group green (7% of the total number of priorities).

Almost 90% of the total value of healthcare investment projects from group **yellow** is attributed to the combined sub-categories of hospital facilities, medical equipment, hospital facilities and medical equipment, that together constitute 38% of all the priorities. The other two top priorities – e-health (25% share in all priorities) and other healthcare investment (19%) are marginal investment categories with a share of 9% and 1% respectively in the total value of identified projects for that group.

# 2 Barriers to investing in health care

Barriers to investing in health care can arise in a variety of ways. For the purpose of this Study, typologies such as knowledge or capacity-based constraints, lack of consolidation of business models, lack of financing resources, lack of sufficient scale or volume of activities for financing, difficulties with bundling, and other strategic issues have been reviewed. It appeared that **the best way to capture the barriers to adequate investment across Europe was a three-way categorisation of the constraints within healthcare investment promoters, problems flowing one way or another from insufficient access to appropriate funding, and barriers caused by regulatory issues.**

During the Study, **data on barriers in healthcare investments was collected twofold** – through an **online survey** aimed at 28 European countries (which resulted in responses from eight countries: Bulgaria, Croatia, Denmark, Latvia, Poland, Romania, Slovakia, Spain) and through **in-depth interviews** with stakeholders from six selected EU Member States.

**Table 5. Distribution of the responses to the survey questions regarding barriers in healthcare investments.**

| Category of barrier | Bulgaria | Croatia | Denmark | Latvia | Poland | Romania | Slovakia | Spain | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Constraints of healthcare investment promoters** | | | | **2** | **1** | **1** | | **1** | **5** |
| Insufficient management and negotiation capacity of healthcare investment promoters | | | | 1 | | | | 1 | **2** |
| Insufficient project development know-how and experience of healthcare investment promoters | | | | 1 | 1 | 1 | | | **3** |
| **Insufficient access to funding** | **2** | **2** | | **1** | **1** | **4** | **2** | **1** | **13** |
| Insufficient financial resources for capital expenditure from government (e.g. central, regional, local, specialist agency) | 1 | 1 | | 1 | 1 | 1 | | 1 | **6** |
| Insufficient presence or activity in the country of large financing institutions (e.g. EIB, National Promotional Banks, international financing organisations) | | | | | | 1 | | | **1** |
| Lack of appropriate financial instruments (e.g. bonds, loans, etc.) allowing for tailored financing of the investment | 1 | | | | | 1 | 1 | | **3** |
| Lack of awareness and capacity of public/private entities to access available financial instruments (e.g. bonds, loans, etc.) outside the government budget | | 1 | | | | 1 | 1 | | **3** |
| **Regulatory barriers** | **2** | **3** | **1** | **2** | **3** | **3** | **3** | **1** | **18** |
| Changing regulations and low predictability of when the changes will take place | 1 | 1 | 1 | | 1 | 1 | 1 | | **6** |
| Inefficient procurement rules | 1 | 1 | | 1 | 1 | 1 | 1 | | **6** |
| Numerous complex regulations | | 1 | | 1 | 1 | 1 | 1 | 1 | **6** |
| **Total** | **4** | **5** | **1** | **5** | **5** | **8** | **5** | **3** | **36** |

*Source: Responses to an online survey aimed at 28 EU countries.*

The table above shows the broad distribution of barriers reported in the survey. This table does not indicate that all barriers in all countries should somehow count as equal in weight,

but is a simple indication of the issues reported by respondents – at regional, local or national agencies or Ministries of Health, financing organisations and industry players.

According to the survey, **regulatory barriers** appeared to be the most burdensome as they were recognised by all of the respondents to be challenging the process of healthcare investments. Three particular barriers were recognised as strong in Croatia, Poland, Romania and Slovakia:

- Changing regulations and low predictability as to when the changes would take place,
- Inefficient procurement rules,
- Many and complex regulations.

Barriers regarding **insufficient access to funding** were also reported in the survey. Apart from Denmark, all other respondent countries recognised aspects of insufficient access to funding to be actual strong barriers to healthcare investment.

- Insufficient financial resources for capital expenditure from government (e.g. central, regional, local, specialist agency) – this barrier appeared most often,
- Lack of appropriate financial instruments (e.g. bonds, loans, etc.) allowing for tailored financing of the investment,
- Lack of awareness and capacity of public/private entities to access available financial instruments (e.g. bonds, loans, etc.) outside the government budget,
- Insufficient presence or activity in the country of large financing institutions (e.g. EIB, National Promotional Banks, international financing organisations).

Barriers linked to **constraints of healthcare investment promoters** were recognised only in Latvia, Poland, Romania and Spain (half of the surveyed countries). This category includes two particular barriers:

- Insufficient management and negotiation capacity of healthcare investment promoters,
- Insufficient project development know-how and experience of healthcare investment promoters.

With respect to cross-country analysis of the survey, Romania recognised the most barriers in healthcare investments, while Spain and Denmark the least barriers. The analysis suggests that each of the identified barriers challenge the process of healthcare investments across the EU Member States – varying however from country to country with respect to the types of barriers and intensity. It is expected that a more complete coverage of EU28 would show similar results, perhaps elaborating further the distribution of particular barriers in each country.

Further exploration of the barriers took place during the in-depth interviews with stakeholders from the six selected countries: Croatia, Finland, France, the Netherlands,

Portugal, and Slovakia. Interviews allowed more valuable insights to be gained on specific types of barriers by giving the interviewed stakeholders a chance to freely describe the recognised barriers within the given categories (rather than by asking them to indicate the already identified barriers – as in the case of the survey). The table below presents a compilation of the barriers in healthcare investments described by the interviewees from the six countries classified into four categories:

- Investment promoter's constraints,
- Insufficient access to finance,
- Regulatory,
- Political/stakeholder.

**Table 6. Identified barriers to implementation of healthcare policies and healthcare investments in the six selected EU countries.**

| **Investment promoter's constraints** |
|---|
| **Croatia:**<br>1. There are experts within the Ministries that have professional capacities and they tend to be overloaded. Additionally for more structural, innovative and new opportunities, there is a lack of professional capacity – external capacities are used only in the case where there is no Croatian expert in the needed area or if the project is being implemented for the first time in Croatia,<br>2. Lack of strategic management and the lack of management of the health system in general.<br>**Finland:**<br>3. None identified.<br>**France:**<br>4. Difficulty of involving promoters in local projects for multidisciplinary health centres while there is little or no financial incentive and a real risk of a low return on investment.<br>**The Netherlands:**<br>5. None identified.<br>**Portugal:**<br>6. Lack of efficiency in spending money and in the management of the financial resources,<br>7. Lack of reporting capacity,<br>8. Lack of adequate international support.<br>**Slovakia:**<br>9. E-health – lack of individuals combining IT and healthcare expertise. |
| **Insufficient access to finance** |
| **Croatia:**<br>1. The overall system is expensive and any investment to be made is substantial,<br>2. All listed financing models are available in Croatia, however there is a strong tendency to use grants,<br>3. Non-optimal distribution of finance based on personal connections rather than objective needs.<br>**Finland:**<br>4. None identified.<br>**France:**<br>5. Payment by the "act" from the French health insurance system,<br>6. Concerns about return on investment linked to the future activity of the health facility,<br>**The Netherlands:**<br>7. Most common sources of finance (bank loans) primarily aimed at large-scale capital investment, for example construction (mismatch between the size of loan demand and loan supply),<br>8. Loan repayments usually last around 20 years, which is often too long for investments in innovative sectors such as e-health,<br>9. Shorter depreciation terms of investment,<br>10. Lack of collateral, for example when buildings are rented rather than owned,<br>11. In-patient facilities typically not allowed to pay out profits to investors, disincentivising private investment,<br>12. Traditional banks are currently said to be carrying rather full loan books, with limited space for further lending. |

**Portugal:**

13. State budget constraints,
14. Non-optimal distribution of financing resources among local authorities (ARS),
15. Public spending control.

**Slovakia:**

16. Non-optimal allocation of investment due to severe underfinancing of Slovak health care,
17. Restricted access to financial guarantees,
18. Non-optimal distribution of finance based on personal connections rather than objective needs.

**Regulatory**

**Croatia:**

1. Difficulties in fulfilment of non-commercial lending institutions' and financiers' criteria.

**Finland:**

2. Temporary law requires government approval of any healthcare investment above 5 million EUR and requires all service contracts to include a 12-month termination clause. However, there is little indication that these would have had any significant impact on investment behaviour.

**France:**

3. Excessive administrative burden to access EU grants (ERDF, H2020).

**The Netherlands:**

4. Private investment in in-patient healthcare facilities, including hospitals, generally not allowed, though under discussion for some years now. Restrictions likely to be relaxed.

**Portugal:**

5. Complex public procurement rules,
6. Complex European Commission regulations about investment initiatives.

**Slovakia:**

7. Excessive administrative burden.

**Political/stakeholder**

**Croatia:**

1. Equity (private) and bonds are not used. Some of the PPP is being used but to a minimal extent.

**Finland:**

2. Coming major healthcare system reform is still unclear on the details regarding responsibilities and governance practices. This may influence negotiations with potential funders in the short term.

**France:**

3. None identified.

**The Netherlands:**

4. The far-reaching privatisation of the Dutch healthcare sector has devolved responsibility for investment to institutions and municipalities (for certain areas of care). There is therefore often no clear sense of ownership for coordinated investments in areas such as e-health.

**Portugal:**

5. The increase of the private sector in the supply of healthcare services.

**Slovakia:**

6. Frequently changing political landscape,
7. Complicated public-private relationship.

*Source: In-depth interviews conducted with stakeholders from six selected EU countries.*

Interviews revealed that **constraints regarding the availability of investment promoters** may actually account for a more significant burden in many other countries.

Interviews also indicated that **barriers related to changes in the political landscape** are significant. These can affect the appetite for private and public-private investments into healthcare services and the delicate balance between centralised or decentralised responsibilities.

**It is important to note that the recognised barriers are observations of the surveyed and interviewed stakeholders, which are with reference to one point in time. However, what is noticeable at this stage is how disparate the barriers are.** Some of these will be resolved once the current regulatory framework is clarified and restrictions are relaxed. However, it is clear that country groupings largely determine the type of issues countries

face. Croatia and Slovakia (group red) require significant investment and currently there is a lack of capacity to access (private) finance and manage large projects. These countries also suffer from political uncertainties and weak governance. Portugal (group blue) also requires better access to finance and associated management practices as the financial crisis badly affected the country's public budget and health system. France and the Netherlands (group green) face more subtle issues linked to administrative burden and concerns around suitable return on investment (France) and the lack of clarity around the role of the private sector (the Netherlands). Finland (group yellow) is currently undergoing a significant change in its healthcare system to readjust the balance between centralisation and local ownership.

**While the removal of some of these barriers would result in a significant step forward, there are no clear indications that removal of one or a group of barriers would suddenly result in unblocking the system to appropriate investment.**

# 3 Essential factors influencing healthcare investments

This section attempts to extract and highlight **the most essential factors behind the investment barriers identified in the previous section.** These are largely based on the in-depth interviews conducted in the six selected countries – many valuable, yet to some extent subjective, insights have been provided by the interviewees.

The total of the **29 recognised essential factors have been classified into nine categories:**

- Finance availability,
- Governance by government,
- Hospitals and hospital tariffs,
- Human capital,
- Public health and other non-hospital sub-categories,
- PPP,
- Private sector,
- Project appraisal and evaluation,
- Strategies and priorities.

Categorisation of the most important issues into nine groups allows conclusions to be drawn, on a high level, regarding which types of factors are recurring and at what frequency in the analysed countries. However, **it is important to note that the particular factors are often context- and country-specific and strongly vary between countries, therefore it may not be possible to compare these faithfully across EU countries. Nevertheless, these may illustrate the types of factors at play and help future studies in assessing**

**these in other contexts. The categories ultimately used captured a full range of social, governance, economic and strategic issues.** They are of different kinds, and emerged empirically from the country interviews. There are grey areas between them and, as with other categorisations used in the Study, they do not carry as such any implication of relative importance, either within or between countries.

**Table 7. Distribution of the essential factors influencing healthcare investments among categories and analysed countries.**

| Category of factor | Croatia | Finland | France | Nether-lands | Portugal | Slovakia | Total |
|---|---|---|---|---|---|---|---|
| Finance availability | 1 | 1 | | 1 | | 1 | **4** |
| Governance by government | | 1 | | 1 | 1 | | **3** |
| Hospitals and hospital tariffs | | | 1 | | | 1 | **2** |
| Human capital | 1 | 1 | 1 | 1 | 1 | 1 | **6** |
| Public health and other non-hospital sub-categories | | | | | | 1 | **1** |
| PPP | | 1 | 1 | | 1 | 1 | **4** |
| Private sector | 1 | | 1 | | | 1 | **3** |
| Project appraisal and evaluation | 1 | | | | 1 | | **2** |
| Strategies and priorities | 1 | | 1 | 1 | 1 | | **4** |
| **Grand Total** | **5** | **4** | **5** | **4** | **5** | **6** | **29** |

*Source: In-depth interviews conducted with the stakeholders from six selected EU countries.*

Deficits in **human capital** have been the most recognised category, identified in all of the six selected countries, with particular issues referring either to lack of adequate policy, programme or project planning capacity, or to human resource shortages in various clinical areas.

Furthermore, the following three categories have been equally identified in four out of the six analysed countries: availability of finance, Public-Private Partnerships (PPP), and declared strategies and priorities. Particular issues regarding the **availability** of **finance** vary strongly across countries – from diminished lending, through a strong reliance on EU funding, to an uncertainty about EIB's role. Concerns about **PPP** are often linked to a negative perception rather than clear evidence. It was widely recognised that **declared strategies and priorities** are often inconsistent with identified needs and actual investment decisions.

The third most common factors are the ones related to the **governance by the government** and the **private sector** – in three out of six countries, these types of issues have been

observed. With respect to the governance by the government, in each country the issues refer to different problems, such as an ongoing healthcare reform, macroeconomic situation, or entrance of private providers into the traditional public health services. Issues regarding **private sector** involvement in healthcare financing are varied and range from the lack of engagement with private investors to strong regulation of the scale and scope of the involvement of private actors.

Other factors include hospitals and hospital tariffs, project appraisal and evaluation methodologies and public health and other sub-categories. With respect to **hospitals and hospital tariffs**, tariff systems are either too complex, problematic or undergoing reforms. **Project appraisal and evaluation methodologies** are overly complex and lack a systematic and consistent approach even within a country. **Public health and other non-hospital categories** refer to gaps with investments in primary care, long-term care and disease prevention.

A list of all essential factors influencing healthcare investments is presented in the table below.

**Table 8. List of essential factors influencing healthcare investments identified in selected EU countries.**

| | |
|---|---|
| **Finance availability** | |
| Croatia: | Strong reliance on EU funding |
| Finland: | Concerns about the role and potential of the EIB |
| The Netherlands: | Many projects in hospitals, primary care, e-health and long-term care are now small, hence the term for lending is diminished |
| Slovakia: | EIB not an actual source of health sector lending |
| **Governance by government** | |
| Finland: | Ongoing health reform creates uncertainty for investors |
| The Netherlands: | Government oversight, or ability to steer, is limited |
| Portugal: | The country's ongoing macroeconomic problems |
| **Hospitals and hospital tariffs** | |
| France: | The activity based pricing system in France using DRG classification (T2A hospital tariff) is not considered transparent and suitable, influencing investment decisions |
| Slovakia: | Ongoing hospital tariff reform creates risk and uncertainty for investment |
| **Human capital** | |
| Croatia: | Lack of capacity and skills in management of the health system and of projects |
| Finland: | Lack of project development expertise at central government level and healthcare staff shortages |
| France: | Human resource shortages are significant, particularly in health centres |
| The Netherlands: | Human resource shortages range from significant through to severe |
| Portugal: | Manpower problems are growing |
| Slovakia: | Shortage of healthcare staff (doctors and nurses) |
| **Public health and other non-hospital sub-categories** | |
| Slovakia: | Development of a network of Integrated Care Centres for primary care with substantial areas still managed with single-handed/small GP practices; GPs as an ageing group and difficult to attract to remote places |
| **PPP** | |
| Finland: | PPP is not well regarded |
| France: | PPP is not well regarded |
| Portugal: | Lack of reflection on the hospital PPP programmes |
| Slovakia: | PPP is not well regarded |
| **Private sector** | |
| Croatia: | Inadequate routes to encourage responsible private sector investment |
| France: | Private hospital sector is already extensive in certain areas, limiting further investment opportunities |
| Slovakia: | Need to formalise the operations of some regional private hospitals with long-term contracts to handle a proportion of public patients |
| **Project appraisal and evaluation** | |
| Croatia: | No systematic use of disciplined project appraisal methods |
| Portugal: | Public project development processes are long, and long-winded |
| **Strategies and priorities** | |
| Croatia: | Out-of-date and aspirational strategy and plan |
| France: | Most sub-sector levels of health are "priorities" |
| The Netherlands: | The hospital sector in the country is probably fully built, therefore the need for further investment is diminished |
| Portugal: | Stated priorities do not drive most investment |

*Source: In-depth interviews conducted with the stakeholders from six selected EU countries.*

The Study also found that **certain factors were conducive to healthcare investment**. For example, there was approval of some partnership models (even if not of the standard interpretations of PPP), countries were favourable about e-health and IT and public health measures were seen as rather important, if underfunded.

**Hence, apart from the factors described earlier, a few factors perceived as either advantageous or neutral were recognised as well during the interviews**. These are presented in the table below.

**Table 9. List of advantageous/neutral factors influencing healthcare investments identified in selected EU countries.**

| | |
|---|---|
| **Finance availability** | |
| Finland: | The perception is of limited difficulty in accessing funding<br>The country has experience of innovative financing approaches |
| **Private sector** | |
| Portugal: | The private healthcare sector is growing, which is attracting further investment<br>Partnership models between public and private sector eke out resources and may be highly beneficial |
| **Project appraisal and evaluation** | |
| Finland:<br>France: | Appraisal methodologies are of high quality, however used inconsistently<br>The project development environment is well organised |
| **Public health and other non-hospital sub-categories** | |
| Croatia: | E-health systems are developing, which creates favourable conditions for further investment |
| Finland: | Public health measures (prevention, screening) are currently under-resourced, offering an opportunity for future investment |
| Portugal: | E-health systems are developing (the only area with national level strategy and specific funding allocations) |
| Slovakia: | Public health measures such as screening are making an impact<br>Need for investment in long-term care facilities |
| **Strategies and priorities** | |
| Slovakia: | Regional hospitals and their rationalisation – the investment shortfall has left the hospital stock particularly decrepit in physical state and out of date and unsafe in medical terms, which offers a significant opportunity for future investment |

*Source: In-depth interviews conducted with the stakeholders from six selected EU countries.*

The list of advantageous/neutral factors presented above is not exhaustive, which means that other factors, not mentioned by the interviewed stakeholders, could be present in a country. Nevertheless, there are already a number of important areas where policy-makers and investors could seek to reinforce the already favourable trends, thereby contributing to the enhancement of the country's overall health system.

# 4 Best practice elements in financing healthcare investment

During the in-depth interviews conducted within the Study, **details of the approaches taken by six selected countries in financing healthcare investments have been explored.** This section of the Report, dealing with those best practices that emerged, should be read in conjunction mainly with sections regarding essential factors influencing healthcare investments and recommendations.

The Study categorises the identified best practice elements of the respective countries' approaches into the following groups:

- Health system enhancement,
- Project appraisal and evaluation,
- Procurement development,
- Financing mechanism,
- Private sector involvement.

These categories emerged as a result of a review of the materials of the in-depth interviews with country health policy experts and stakeholders engaged in individual investment projects, and from health policy material otherwise available. The interviews themselves all followed a standardised questionnaire. However, in order to give maximum freedom to explain the situation in the respective countries, the interviews were deliberately rather open ended, which means that the abovementioned categories did not appear as such in the interview structure.

**Health system enhancement** covers, firstly, the context behind investment in healthcare and, secondly, the factors impinging on the ways in which investment is delivered (the rest). Health system enhancement, as a topic, is particularly important, since any investment is only advantageous if it is fitted somehow into its wider context. This is as applicable for non-healthcare capital expenditures as for those directly in cure and care such as primary or secondary care, or associated areas including e-health. This category covers a wide range of identified issues, including ones which help to avoid burdens on the healthcare system (such as development of public health and prevention measures), and those which unblock hospitals but are outside of them – rehabilitation and palliative capacity, and health pathway development for integrated care.

**Project appraisal and evaluation** is important, in that it is the part of the investment process which explicitly brings healthcare concerns together with economic ones. Both dimensions in fact have a moral angle, in that if the "best" (in some sense) healthcare is not facilitated, there is clearly a loss to patients and citizens within the system. However, there are straightforward arguments that maximising efficiency, including in the use of public

funds, also avoids deadweight social losses. Nevertheless, despite its importance, comprehensive health investment appraisal and evaluation are extremely difficult to perform properly. In addition, it is perceived that there is no accepted golden standard in the areas. This derives from the fact that the benefits of healthcare (and by extension, of the capital stock of the system and of the investment in that stock) are difficult to identify unambiguously, whereas the costs are material and visible. In that sense, full cost-benefit analysis in the sector is problematic, whereas variants of cost-effectiveness analysis are slightly easier to carry out, albeit less complete.

**Procurement development** has a bearing on the ways in which investment is managed – who does it, and what methods are used. The health sector in most countries is either public or publicly controlled, therefore the options which health authorities can explore are limited.

**Financing mechanisms** used to fund investment are in a sense part of procurement processes. However, for the purpose of this Study, this category is treated separately.

Finally, there are complex issues surrounding **private sector involvement.** Even in systems dominated by public sector care delivery, the private sector has a substantial role. This can be in purely supportive functions (provision of ancillary goods and services), but also extends to healthcare delivery – for instance Public-Private Partnerships. Furthermore, ideas around “New Public Management” lead to some degree of autonomy for public sector actors which can mimic the functioning of the private sector, and this can have an impact on the provision of care.

The table below lists the Study findings, under these five categories, derived from discussions with and analysis of the six selected countries. The categories are not clear-cut – some of the examples shown could be under different headings, and the categories should therefore be read flexibly.

**Table 10. Best practice elements in financing healthcare investment identified by six selected countries.**

| | |
|---|---|
| **Health system enhancement** | |
| Croatia | • Well-functioning public health system in the Istria County through connecting primary care, public hospitals and private sector facilities<br>• Operational success in cooperation of the palliative care association with health centres and hospitals in the city of Čakovec<br>• Cooperation between healthcare facilities – patient exchange and referrals, services and capacity exchange etc.<br>• Focus on remote areas when executing a training project |
| Finland | • The hospital concept designed for the Espoo Rehabilitation Hospital and the implementation of a new hotel-like facility with a wide range of elderly care services under one roof (comprehensive long-term care facility with home care, assisted living, and hospital care)<br>• E-health as the only area where the government has a national level strategy combined with specific funding allocations. KanTa platform development will continue in the coming years |
| France | • Private multi-professional health centre developments, enabled by appropriate levels of public subsidy<br>• Development of shared medical records, particularly in support of active and healthy ageing, via the DMP (Dossier Médical Personnel)<br>• The parcours de santé concept fosters, or at least at the minimum enables, integration and continuity of care across various levels (including the E-parcours programme as an e-health initiative) |
| Netherlands | • Grouping of primary care practitioners to give practice continuity enabling upgrade investment |
| Portugal | • Decentralised and hierarchised model of long-term care managed at three governmental levels with provision of care made up of a partnership between the state and the private sector<br>• "Program for the Integration of Care and the Promotion of Users Pathways in the National Health Service for 2017" oriented to create financial incentives to encourage partnerships between various NHS entities in the primary care sector, hospital care and integrated care, involving, where possible, other partners in the community (integration of health care)<br>• Implementation of various screening tests in a region<br>• Development of multilevel collaboration agreements with local authorities (e.g. municipalities and districts) to share financing decisions, allocation of resources and responsibilities and technical support |
| Slovakia | • Comprehensive and coordinated EU-financed development of primary care, with consolidation of services into the new network of Integrated Clinical Centres<br>• Project for medical school graduates, offering further residency training, for both aspiring GPs and specialists |
| **Project appraisal and evaluation** | |
| Finland | • The systematic approach for identifying and selecting healthcare investments adopted by the biggest healthcare districts |
| France | • Well-structured planning and appraisal system directed towards the parcours de santé patient pathway development |
| **Procurement development** | |
| Croatia | • Centralised procurement for equipment for entire country (transparency and competitive prices, the quality of the maintenance service the same for all hospitals) |
| Finland | • Bundling of investments into investment programmes (better access to funding, possibility of reallocation of funds between individual investments, better coordination and linkage to strategies)<br>• The use of fully owned real estate companies (professional management of both the investment project and the subsequent management and maintenance of the new or renovated facility) |

| Financing mechanism | |
|---|---|
| Finland | • Capacity-based funding models for medical equipment |
| France | • Systematic availability at local level of lending (through the Caisse des Dépôts et Consignations) |
| Netherlands | • Centralised guarantee fund to support financing by commercial banks<br>• Institutions seeking credit ratings to give confidence in accessing new national as well as international funding<br>• Engagement by banks which focus on sustainability (e.g. green banks funding energy investments)<br>• Direct government financial support to non-tertiary hospitals to deliver highly-specialised care and scientific research<br>• Traditional model of financing of in-patient facilities, largely through guaranteed debt financing |
| **Private sector involvement** | |
| France | • The public-private role sharing of healthcare delivery between "hôpitaux" and "cliniques", as a function of putting in place appropriate governance procedures (regulation, equivalent tariffs etc.) |
| Netherlands | • Public-private partnerships for research and innovation packages |

*Source: Interviews with country stakeholders.*

The results of the exercise to identify elements of best practice, based on the conducted in-depth interviews, could be perceived as unimpressive. **These results suggest that there might be no golden standard – that is, procedures that work well enough to be considered "best" practices in one jurisdiction do not necessarily apply well to others.** Furthermore, most interviewees were relatively modest in calling practices "best", even within their national setting. Finally, some of the best practice issues could be regarded as politically-sensitive, which will reduce their portability across countries.

As suggested in the introduction to this section, issues concerning the context of **health system enhancement** were seen as quite important. Public health measures were treated as material in helping to offload the healthcare and hospital systems (Croatia, Portugal). Palliative care (Croatia) and rehabilitation (Croatia, Finland, Portugal) were also mentioned here. Moves to foster integration of care were important to interviewees (Croatia, France, Portugal). Support to modernise and extend primary care to prevent unnecessary hospital admission was part of this (France, the Netherlands, Slovakia). E-health was mentioned by some respondents (Finland, France). Issues around human capital appeared in a number of respects (Croatia, France, Slovakia).

**Project appraisal and evaluation** attracted surprisingly little attention. It was seen as important when done well, with an implication that standardisation of procedures could help (Finland). Carrying out appraisal procedures consistent with proper healthcare pathways – a health system issue – sometimes emerged as critical (France).

**Procurement** is very much a function of country circumstances. There is always a balance between centralising functions versus cascading them to lower levels such as regional or municipal. The choice will depend on a number of factors (Croatia) – and sometimes public policy on centralisation/decentralisation will flip back and forth within a single country. Some countries are starting to explore bundling of small projects to achieve economies of scale (and scope) in management of such projects, and use of dedicated real estate companies (Finland).

**Financing mechanisms** include capacity-based funding of equipment rather than traditional purchase or leasing (Finland). The need to ensure that finance is readily available at sub-national level through recognised appropriate regional/local institutions was important (France). There was mention of the value of centralised financial guarantee mechanisms in the sector, working with the grain of the finance markets via credit ratings in order to give confidence, and financial support to non-tertiary hospitals to deliver specialised care (the Netherlands).

The involvement of the **private sector** was not particularly prominent among the identified best practices. A relatively unexplored area in European health policy is the development of a functional split between private hospitals delivering a very substantial defined proportion of elective care and public hospitals offering specialised and emergency care, as well as some elective. Perhaps the governance arrangements here constitute the real example of effective Public-Private Partnership nowadays (France).[9] PPP as normally defined was only mentioned once in the interviews as an example of best practice, and this for research and development not for care processes (the Netherlands).

# 5 Practical recommendations based on findings and conclusions of the Study

In this final section, the Report includes **presentation of key features of future financial support for health systems within the EU and recommendations targeted at EU level and national/regional level, explained in detail and supported with rationales resulting from the Study.**

[9] Engagement of the private sector is not straightforward or politically easy. France uses similar DRGs for reimbursement of both public and private sectors (Z. Or, Implementation of DRG payment in France: Issues and recent developments, Health Policy, Vol. 117, Issue 2, Aug 2014). Citizens of course have cover from the state for healthcare, but with top-up from Voluntary Health Insurance which at 90% of the population is near-universal though of course the coverage of packages varies, and with income (European Observatory on Health Systems and Policies, Health Systems in Transition – France, 2015). The result of these payment arrangements is that private hospitals – "cliniques" - deliver a great deal of healthcare to much of the population: 25% of full-time and 40% of day-care beds, and respectively 27% of full-time and 50% of day-care episodes and of surgery (Observatory 2015 op.cit.). The rest of the capacity and activity comes from not-for-profit units or the public hôpitaux. France is also increasing the responsibility of the private sector in delivering primary care facilities and activities – mentioned under "Health system enhancement" in the table above.

Therefore, in order to conclude and to develop recommendations of findings from both the pan-European and the specific country analyses carried out within the Study, a systematic approach has been applied.

**The following recommendations build on, but also go beyond, the identified:**

- **Elements of best practices,**
- **Gaps – the analysis of gross capital stock at national level and its apparent implications for the impact of quality and quantity of health care delivered in the sense of avoidable mortality,**
- **Barriers – survey and interview findings on the constraints applying to healthcare investment promoters, insufficient access to funding, regulatory problems, and political/stakeholder problems,**
- **Essential factors influencing healthcare investments**

The systematic approach used in the table below is **based on the understanding that healthcare investment always has to be oriented to solving an underlying sector issue, and a number of these have been identified during the Study. There is a rationale for how investment is part of the solution to each particular issue. Then the recommendations explore how best to foster the required investment or the desirable investment-related procedural and system changes, if those are most appropriate.**

The respective health sector issues, rationales for investment, and recommendations to achieve investment are grouped in the table below under a series of consecutive headings:

- Physical capital stock availability, capital efficiency, and facilitating the required finance,
- Public and population health,
- Strategies, priorities and governance,
- Project appraisal and evaluation methodologies, and its dissemination,
- PPP role, and the private sector,
- Small public health and other non-hospital categories of investment,
- Hospitals and tariffs.

This list consists of the themes judged to be the most significant in terms of supporting investment programmes. Their applicability is usually across the EU, however is sometimes for specific countries. The themes cover a range of health, economic, governance and skill-based areas. **The resulting recommendations in the table are aimed at various actors, including within the health sector itself, government at various levels and finance institutions.**

**Table 11. Key features determining the need for future financial support with recommendations resulting from the Study.**

| Key features determining the need for future financial support | | Recommendation |
|---|---|---|
| **Health sector issue** | **Related rationale and investment to address issue** | |
| **Physical capital stock, capital efficiency and finance** | | |
| Adequacy of the measured capital stock and efficiency of using it relative to good practice | There seems to be a reasonably-established cross-European relationship between levels of healthcare capital stock and performance of the health system (amenable mortality). It is intuitive that a low measured capital stock for a given national income level means that there is too little capacity in terms of hospitals, primary care etc. Given that by assumption the capital stock endowment is a function of past investment, countries with a lower stock need simply to invest more. However, some countries already have a high endowment of capital, and the evidence is that they need rather to improve the efficiency with which they use their capital stock. | 1. Latvia, Lithuania, Romania, Bulgaria, Hungary, Slovakia, Estonia, Croatia, Czech Republic should focus both on raising annual healthcare capital investment to boost their stock, and increasing the efficiency with which they use what they have<br>2. Poland, Greece, Cyprus, Spain, Italy, Slovenia, Malta, Ireland, Portugal could benefit from increased investment<br>3. Finland, Denmark, Austria, Germany, Luxembourg should focus more on raising the efficiency of their healthcare system than investing in new stock |
| Shortages of capital finance | Many countries report a significant lack of availability of bulk investment funding – from government (various levels), commercial resources (bonds and loans) and IFIs (NPBs, EIB etc.). | 4. Awareness-raising that investment in health care is a human capital issue with long-term returns<br>5. Encouragement of health institutions to seek ratings from the credit rating agencies<br>6. Development of guarantee funds to support bank lending<br>7. (Joint) programmes from the EIB/CEB/EBRD and NPBs on healthcare lending or other finance |

| | | |
|---|---|---|
| Rising costs and shortening life cycle of medical equipment | Competition pressures manufacturers to continuously introduce new innovative medical equipment into the markets. In order to cover increasing development costs, adapt to market fluctuations and boost customer commitment, manufacturers have been developing business models which rely more on long-term sustainable revenue streams instead of one-off equipment sales. One example is capacity-based funding (also known as equipment-as-a-service; EaaS), which refers to pay-per-use for equipment. It is akin to leasing, and combines equipment, services and consumables into a single and easily understandable offering with a transparent pricing structure. The equipment is owned, maintained and upgraded by the vendor. The healthcare service provider pays a pre-agreed price for each time they can successfully use the equipment. This means that it is in the vendors' interest to ensure high equipment uptimes. Other benefits include the ability to respond to fluctuating demand volumes and flexible access to the latest medical equipment. | 8. Shift from traditional models of purchasing and leasing medical equipment from vendors to more innovative models, such as capacity-based funding (when beneficial) |
| **Public and population health** | | |
| Inadequate availability of healthcare staff | Shortages in health workforce are observed across the EU, which can be partially explained by the current demographic trends that not only impact on ageing patient populations (chronic diseases), but also significantly on the ageing and skills of healthcare system staff. Another factor is a relatively low remuneration of healthcare professionals.<br><br>Workforce constraints in delivering health care limit effective operations of new investments. Healthcare wages and elevated workload especially in the public sector is an increasing problem in many countries (e.g. Portugal, Slovakia, Netherlands).<br><br>In order to bring in new staff and upskill/raise productivity of existing staff, training and new motivating systems would be needed. | 9. Provision of funds for training programmes for doctors, nurses, allied professionals etc.<br>10. Development of e-health infrastructure |
| Shortages of staff levels in rural and remote areas | There is a difficulty in attracting staff to rural and remote areas (including when urban primary care is enhanced).<br><br>Merely training more staff may not be the answer as retention of skilled workforce appears to be a challenge, especially in rural settings. Subsidies would be needed to attract healthcare staff such as doctors and nurses. | 11. Inclusion of funding and practice development for remote community/primary care measures (salary enhancement, equipment provision) probably tied into the main, large urban primary care programmes |

| | | |
|---|---|---|
| Inadequate availability of project development staff responsible for design, appraisal, implementation and monitoring of projects | Capacity and skills in management of the health project investment and financing is often lacking at the point where oversight and financial guarantees should be provided and this continues to prove to be a bottleneck for further investment in health (e.g. Croatia, Portugal).<br><br>Particularly (but not only) in EU-13, there is a generalised deficit of capacity in project/programme development. This failing also references experience and awareness of negotiation with the private sector.<br><br>Eligibility criteria of EU funds (including the EIB) are not always clear to national decision makers leading to sub-optimal decision making on health investments. A notable exception is observed in France, where a mechanism for investment oversight, COPERMO, and a well-structured business case process, adequate contracting capacity, and appropriate provision of finance and intermediaries – Caisse des Dépôts – are available. | **12.** Enhancement of cross-country transfer of know-how and expertise by promoting knowledge about availability of financial sources (also other than the EU funds), best practices in appraisal methodologies and financing schemes (e.g. by provision of funds for training programmes for project development staff, exchange programmes, direct contact/relationship with central and local governments, insurers, private stakeholders etc.)<br>**13.** Automatic inclusion (when desirable) of technical assistance in any capital developments funded by ESIF/EFSI/EIB/CEB/EBRD/NPBs etc.<br>**14.** Simplification of procedures for obtaining funding – clearer rules and tools should result in workload reduction and optimisation |
| Inadequate national and EU focus on public/population health | Population health is usually considered by ministries of health/social affairs to be consumption spending, however it proves to have the characteristics of investment in human capital, and very often offering high rates of return.<br><br>Prevention, screening and other health programmes are recognised as important measures to maintain population health and avoid excessive hospitalisation, yet countries underspend severely on population health (which is wider than the normal term of 'public health') and consistent investment into such programmes is lacking (e.g. Croatia, Slovakia).<br><br>Given the above, funding from EU sources as adjunct to a larger infrastructure loan would seem appropriate. | **15.** Popularisation of the fact that population health should be treated as an investment, not consumption, item by governments<br>**16.** Provision of funds for population health programmes<br>**17.** Attaching hypothecated finance for population health programmes to fixed capital funding<br>**18.** Exploration of social impact bond structures for population health funding by the private sector including charities<br>**19.** Launch of pan-European population health programmes/pan-European monitoring of population health programmes<br>**20.** Reconsideration by the EU and IFIs of the eligibility rules to allow investment in health of underserved populations (e.g. prison health – prison inmates constitute a universally deprived and sick population, including addictions and increasing problems of ageing) |

| Strategies and priorities, governance by the government | | |
|---|---|---|
| Disconnect between each country's stated strategic priorities and the actual pattern of investment spending and lack of long-term investment plan | National strategies are often disconnected from the implementation of health investment (e.g. Croatia, Portugal). While investment priorities into primary care or long-term care were noticed by the stakeholders during the interviews, even when not highlighted in national documents, actual capital spending into hospital infrastructure is in fact often observed. The prolonged process of implementing healthcare reforms may also delay investment into priority areas (e.g. Finland). Independence of insurers and care providers (e.g. Netherlands) also means that there is limited ability for the government to provide an investment strategy, steer the system or vet investment projects.<br><br>Aside from the innumerable needs-based or preferred political choices or other investment drivers, it is not clear that many (if any) countries have protocols to compare the return on investment across different health areas.<br><br>Additionally, long-term investment plans are not regularly developed and followed by European countries. | **21.** Emphasis on consistency among countries with respect to the declared strategic investment priorities and the actual investments pursued<br>**22.** Assessment of the current state of healthcare infrastructure (with distinction of investment sub-categories) in each of the EU countries that would be an input for the development of health strategies and investment plans<br>**23.** Development of health strategies by countries that would also include an infrastructural (investment) plan consisting of roadmaps of needs and projects together with estimation of associated costs and possible sources of funding (including long-term funding)<br>**24.** Development of a monitoring tool for tracking changes and developments in each country regarding health needs, strategies/priorities, reforms, state of healthcare infrastructure, actual investments etc. |
| The (im)balance between centralisation and regionalisation | The more developed EU countries tend more towards the use of decentralised structures for health care, and vice versa for the less-developed countries. Additionally, decentralisation for example to municipality and hospital district level may also result in a lack of expertise in health financing at the central government level. | **25.** Usage of centralised, rather than local/regional structures for health systems in less-developed states followed by funding flows that will need to be managed to match the degree of centralisation |
| Haphazard processes for development and operation within healthcare, and in other health policy areas | There is an almost total acceptance in health policy of the need to integrate care across different levels (primary, secondary etc.), for reasons of patient-centeredness, process efficiency and cost control. However, the implementation of this is very often, even paradoxically, unsystematic. Population health measures and those in the care sector as such need to be much better coordinated. Even the vocabulary to articulate this is not well-sorted, and individual actors – Ministries, departments and services – find it difficult to work together | **26.** A shift to using patient pathway concepts for all types of healthcare planning and organisation, avoiding vertical decision-making silos (probably including suitably-oriented payment mechanisms)<br>**27.** Encouraging the use of IT to draw together provider levels and localities |

| | | |
|---|---|---|
| Ambiguous procurement systems | In many countries, decisions incorporate more than the necessary political discussion for validation, with consequent steering of projects and funding for non-health reasons. Centralisation of procurement would increase transparency and ensure incorporation of adequate maintenance provisions/funding. | **28.** Adoption of centralised procurement procedures in less-developed states |
| After signing the contract, difficulty with adjusting investment during the project execution | Strict procurement and financing rules often do not allow any adjustments of the investment during its execution. Often, due to long investment periods, market circumstances change (new technologies, price increases, change of needs), however the contracts do not allow any changes. Adjusting the scope and plan of investment (when reasonable) during the project execution would allow it to better meet healthcare needs. | **29.** Provision of funds for adequate and detailed planning and scoping of investments<br>**30.** Enabling modification of the contracted investments (including scope, cost estimates, scheduling etc.) in defined milestones of the project (taking into account the risks associated with abuse by project executors) |
| **Project appraisal and evaluation** | | |
| Deficient project appraisal methodologies | Project appraisals are often not relevant to a whole lifecycle approach if the health investment and decision-making approaches rarely integrate health impacts, productivity and cost concerns (i.e. health service needs, quality, accessibility, affordability and its economic business case). In some countries, decisions on investment into health are political rather than based on needs and economic rationale. Development of project appraisal methodologies would increase the social and economic accuracy of the investment decisions. | **31.** Opening by the EU of an extensive dialogue with countries about health investment appraisal methodologies, including IRR/ERR/SRoI etc.<br>**32.** Requirement in funding schemes for disciplined project appraisal at common national standards within the country concerned<br>**33.** Development of a widely-available methodology for cost-benefit analysis of investments that would integrate health impacts, productivity and cost concerns |

| **PPP, private sector** | | |
|---|---|---|
| Constraints of current conventional PPP model | For conventional PPP in EU countries, the evidence is thin on achievement of timely project implementation, superior performance or cheaper capital funding, and this is reducing PPP popularity sharply. Estate/accommodation-only projects fare particularly badly (the UK has just abandoned the model). Therefore, conventional PPP is rarely regarded as a cost-effective or politically palatable way of investing in health today (e.g. Finland, France). Even in countries with significant experience (e.g. Portugal), effective evaluation of PPP funding modalities is lacking. Widening the conventional definition of PPP, there can be reasonably successful sharing of responsibilities between the public and private sectors in the hospital sector (France). | **34.** Development of effective evaluations of PPP projects and/or comparative analysis of different PPP models (approaches), including economic and clinical results |
| Underdevelopment of public governance of private sector engagement in healthcare delivery | In almost all countries studied during the focused country analysis, private health services (often available to public patients) represent a growing segment and thus a further opportunity to invest. This may be difficult where it feeds off the public sector (e.g. Croatia) but in other countries this may represent a clear support to the overall health system (e.g. Portugal, France). The private sector operates widely in elective care, often self-paying or funded by voluntary health insurance. Private services are visible in primary care and long-term care. It could be used more widely in main-line public health care if governance were improved – contingencies to avoid cream-skimming, inclusion in state planning, common pricing with public facilities. | **35.** Offer of finance by public funders to the private sector, especially when the private sector is strong (however only with imposition of stringent governance guidelines, including public service delivery obligations)<br>**36.** Orientation of project choice and finance towards wider (service delivery-inclusive) PPPs, along the model of the German private hospital chains<br>**37.** Governance, contract and tariff arrangements for private sector provision which involves sharing responsibility with the public sector |

| | | |
|---|---|---|
| **Small public health and other non-hospital categories** | | |
| Trend of projects in health care towards community and primary care (projects smaller in average size than in the past) | Although large-scale investments will most probably continue for the foreseeable future to dominate total spending on healthcare investments, in the more mature health systems (e.g. Netherlands and Finland) less funding will be required and/or needed in hospital facilities and an increasing proportion of projects will be smaller, shorter term, and with higher uncertainty/risk, driven by out-of-hospital trends.<br><br>Many projects in hospitals, primary care, e-health and long-term care are now too small. Project investment size and terms for lending will thus be more limited in the future (e.g. 50-year loans appropriate for buildings will not be suitable for short-term medical equipment or e-health solutions). Openings for intermediated or programme lending via the existing banks or bundling of investment projects into multiannual investment programmes will be increasingly common. Evergreen funding facilities, which roll over short-term lending but itself last considerably longer, could help with access to the sorts of finance that will increasingly be needed in the future. | **38.** Development of financial offers by funders with lifecycle adjusted financing/term or using evergreen structures (rolling over short-life tranches)<br>**39.** Usage of different funding routes, such as real estate companies, partnerships etc. |
| **Hospitals and hospital tariffs** | | |
| Poor long-term analysis of hospital needs and renovation planning | The largest investments occur in hospital facilities, however often the economic rationale is spurious. Large hospitals may be located in proximity, waiting lists continue to be high and growing, and often services are loss-making (e.g. Croatia, Slovakia). The condition of hospitals in lesser-developed countries is particularly poor, with decrepit and clinically-unsuitable facilities. In countries like for example Slovakia the state of hospital stock is clearly out of date, unsafe and results in operational loss-making. These hospitals should be taken out of action. Even well-equipped countries lose their hospital capital stock annually through life-expiry or clinical obsolescence Additionally, even in countries where accessing finance is not regarded as a challenge, the hospital stock (and primary care facilities) may be considered out of date (e.g. Finland). In some countries where the hospital stock is considered adequate (e.g. Netherlands), the actual operation of the hospitals is often sub-optimal. In these cases, | **40.** Continuation of the flow of finance to the hospital sector, however on an invest-to-disinvest basis, and in practical terms only for hospitals networked with other levels of care<br>**41.** Development of a hospital investment plan that would consider the assessment of the current state of hospital infrastructure in each of the EU countries |

| | | |
|---|---|---|
| | hospitals may be selling off their assets, which may help with lifetime costs, however the ability to provide collateral for future loan facility decreases.<br><br>Financing institutions, which have the capacity to help originate and manage large capital transactions, should willingly carry out such projects. However, it is evident that hospitals only make sense in the context of the health system in which they are placed, and all hospital projects should therefore be networked into the ongoing wider system – certainly not like-for-like replacements of the existing assets. Furthermore, it is evident that almost all non-hospital projects will be smaller and this will often be true for programmes gathering together a series of connected expenditures. These present appraisal and management problems for many funders since they are complex, carried out by many partners, and with unclear responsibilities. One option is to incentivise project promoters to associate non-hospital expenditures (equally "investment") with hospital ones, using loan conditionality to ensure that funding for smaller expenditures does not get omitted.<br><br>Given the above, even though the majority of healthcare spending will remain in hospitals (mainly due to the fact that it is the irreplaceable high fixed capital intensity, high human capital intensity, high technology-intensity healthcare production site), there will be a lessening of emphasis on the traditional acute hospital and more emphasis on out-of-hospital care. | |
| Hospital tariffs are often poor guidelines for investment (quite apart from activity) | Hospital tariffs, usually DRG-based, in most countries do not provide a transparent financing of the health system, neither do they include depreciation components to a point that results in sustainable operation of healthcare facilities and still less are they prospective (looking to incoming investment options). This fails to provide a price steer for investment. | **42.** Exerting pressure by funders on countries to incorporate a prospective capital element in pricing mechanisms, perhaps as a condition for major investment programmes |

*Source: Based on the situation in 28 EU countries and in-depth analysis of the situation in six selected countries.*

The table is detailed and largely self-explanatory, however below are some additional comments that might facilitate the interpretation of the recommendations.

## Physical capital stock, capital efficiency and finance

This section is based on the regression analysis (presented in section 2) between healthcare capital stock per capita of the country's population and amenable mortality, as an index of health system performance. Broadly, that showed an inverse relationship between capital stock and mortality rates, decreasing in power at higher capital endowments (i.e. when countries have lots of capital such as hospitals etc.). Countries can be grouped intuitively by their location along the line of statistical best fit, and by whether they are above or below the line (below means that the country concerned is more "efficient" at using its capital than the average). Some countries, especially in EU-13, on this evidence need simply to invest more at a macroeconomic aggregate level in their healthcare capital stock, others need to become more efficient, and some need to do both. Caution is needed in interpreting these findings, but they are illustrative.

It is likely that a significant reason for the capital shortfalls is that they are caused by difficulties in accessing finance (referred to as barriers in the Report). There are recommendations around treating the healthcare sector as a "profit centre" rather than as a "cost centre" (i.e. that it is a human capital issue for society as a whole, such as in terms of developing a strong economy and workforce), facilitating access to private finance markets (credit ratings for health institutions' use of guarantee funds) and for the role of the IFIs.

## Public and population health

Colloquially, the terms "capital" and "investment" refer to physical infrastructure. However, human capital issues could be perceived to be just as or even more important. As stated in the previous paragraph, the health sector fosters human capital in its own right. However, in addition, it is clear that with ageing societies there are challenges with developing or attracting suitably trained staff for the health sector. This is typically worse in rural, remote and deprived areas (including for example penal institutions). Recommendations cover training and the permissibility of investment for institutions.

Project appraisal for healthcare investments is a non-obvious skill, where there is no recognised "state of the art". Good practice should be encouraged, including by the IFIs and via Technical Assistance programmes.

It is commonplace in health policy that capital investment is drawn excessively into the hospital sector at the cost of other areas of care, such as primary care. However, it is likely

even more true that public health – prevention rather than cure – receives much less funding than is desirable. Such expenditure is often thought of as expensed, current cost, rather than capital. This is systematically mistaken: public health measures involve an up-front expenditure yielding long-term returns, and these can typically be shown to be rather high, and above those for infrastructure. As it stands, public health spending in most health economies is roughly equivalent in magnitude to infrastructure capital expenditure. It therefore constitutes an opportunity for IFIs to develop a major new area of health programme funding.

## Strategies and priorities, governance by government

There is evidence in a number of countries that stated policy priorities are not necessarily followed through with actual investment planning and execution (even recognising that hospitals are the capital-intensive part of the health system, so will always attract the bulk of capital investment even in countries accentuating other areas). Repairing the disconnect, to the extent that it really exists, requires consistent and systematic treatment of different types of investment.

There is always a debate about centralised/decentralised administration in health. There seems to be some evidence that for less-developed EU countries, centralisation is more efficient.

Countries are often too rigid in sticking to the procurement contract even when contingencies have changed during development.

## Project appraisal and evaluation

Methodologies for project appraisal and evaluation in health do exist but the area is complicated. Even standard good practice – lifecycle analysis and efforts to understand the "benefit" side are used haphazardly or inconsistently even within a single country. The EU and its institutions could take a lead in that matter by developing a dialogue and insisting on standardised procedures, for internal rate of return, economic rate of return and social return on investment. The latter is particularly poorly defined, which affects the case for social impact investment.

## PPP, private sector

PPP (UK-style PFI, or more service-intensive types) went through a surge of interest right up until the global financial crisis covering 2008. Many countries used it as a procurement process. This trend juddered to a halt from 2008 for both fiscal policy and financial reasons. There has also been in recent years a reassessment of the value of PPP procurement,

which, for many countries, has not been positive. Some countries (e.g. Spain, Portugal) acted as a laboratory with different PPP models, however have not carried out adequate comparative evaluation to enable a judgement of whether one or the other model can be found to be superior. This sort of analysis should be done before any further use of conventional PPP is entertained.

On the other hand, several countries have extensive use of private health facilities especially in the hospital sector. Putting aside the special case of the Dutch not-for-profit hospital trusts, Germany uses private for-profit hospitals to deliver public service responsibilities (effectively a PPP) and France almost the same (*cliniques* relative to *hôpitaux*; this example from France perhaps constitutes a well-established, durable and successful example of PPP). The reasons why successful governance occurs here and not elsewhere should be explored further.

## Small public health and other non-hospital categories

Hospital programmes will continue to dominate health investment in most countries. However, projects in the sub-sector and elsewhere will continue to reduce in size, duration and with an increased risk profile. This will require project bundling routes and terms adjusted to project lifecycle. Traditional long-term (10–50 years) lending may have to give way to evergreen structures, where repayments are rolled over into new lending within the same programme.

## Hospitals and hospital tariffs

Despite a perceived trend towards out-of-hospital focus of care and investment, not only will hospitals continue to attract the majority of investment, but also there are many countries (typically EU-13) with hospital stock so inadequate that this is appropriate. Irrespective of the trend as well, hospital obsolescence continues even in well-endowed systems (hospital infrastructure depreciates). Analysis of hospital investments is, however, often not comprehensive or insightful, with many projects favoured on political grounds or on the basis of a like-for-like replacement of existing obsolete stock. Instead, projects should be on an invest-to-disinvest basis, and with every project assessed on a network/system basis – to what extent the whole system works better after an investment than before. Financing institutions can assist in this consideration.

Hospital payment mechanisms/tariffs are very often not appropriate for an investment appraisal in that they are not adequately cost-reflective. Activity-based systems such as DRGs frequently do not take marginal capital consumption into account and still less are prospective with respect to incoming choice of technique.

EY | Assurance | Tax | Transactions | Advisory

About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organisation and/or one or more of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients.

For more information about our organisation, please visit ey.com.