

# MEASURING AND IMPROVING THE SOCIETAL IMPACT OF HEALTH CARE RESEARCH

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**Note:** This article has been written as the first product of an international working group on improving the societal impact of health care research. Final results of the working group will be available at the end of 2013 and disseminated through the channels of its members.

**Summary:** Health care research is increasingly being evaluated in terms of its contribution to new market products and services, among other factors, in the European Union's new Framework Programme for Research and Innovation, *Horizon 2020*. However, discoveries in health care research often are not marketable products but innovations intended for the public domain. Therefore, funders and the research community need to review the applicability of impact frameworks for evaluating these types of research. Of key importance is the development of societal impact indicators for *ex-ante* evaluations of research programmes and projects. Such assessments should also take the specificities of European versus national level research into account.

**Keywords:** Societal Impact, Health Care Research, Europe, Evaluation, Horizon 2020

## The need for societal impact

In light of the many health care challenges that countries face, there is growing recognition that high quality health care research can help decision-makers by providing scientific evidence to inform policies and practices.<sup>1,2</sup> With governments and health care systems becoming more and more focused on effectiveness and efficiency, it is a logical development that the same also applies to research production. Health care research needs to be accountable and show that investments produce value for money.

How to determine this value and for whom, is a topic of debate. There is growing awareness that the impact of research should not only be determined in

scientific terms. Especially when funded through public sources it is also important that research findings are actually used by end users, such as policy makers, managers, patient organisations or the public at large. A major concern is that national and European health research funding bodies increasingly interpret this societal impact in terms of economic impact, e.g. in terms of cost reductions in the delivery of health services or the employment benefits resulting from healthier workforces.<sup>3,4</sup> This shifting focus is well exemplified by the ambition of the European Commission's new programme for research and innovation, *Horizon 2020*, which should contribute to boosting competitiveness, creating jobs and supporting growth.<sup>5</sup>

This is a narrow interpretation of the health and wealth agenda, focused on tackling societal challenges by helping to bridge the gap between research and the market, thus getting Europe out of the economic crisis. Emphasis is largely placed on the importance of patents, products or spin-off companies. While this focus on exploitable intellectual properties may be suitable for certain domains within biomedical research, it is far less appropriate for what we describe as health care research (see Box 1).

### Box 1: Our domain of health care research

We use the term health care research to describe the overlapping areas of health services and systems research, health policy research as well as public health research, all of which contrast with biomedical and clinical research. Typical elements of health care research are its broad domain, studying a variety of factors at health system level, the level of organisations and that of patients and professionals.

Its objective rarely is to develop innovations that can be marketed through patents or products. Instead, the application and societal value of health care research lies far more in supporting policy decisions, both at governmental and organisational level – for example, to improve the quality and safety of health care, the financial sustainability and productivity of health systems, innovations in health care organisation and delivery or the effectiveness and efficiency with which health care interventions are used. As a consequence, the value of health care research cannot be defined that easily in terms of commercial products and their effects on e.g. employment and tax revenues, but rather in terms of the diverse impacts, including at the economic, organisational and societal levels, that contribute in the longer term to a healthier and more productive workforce.

### From a market-based to a society-based approach

When deciding how to establish the societal impact that better fits health care research, it becomes clear that there is a wide variety of impact assessment methodologies available.<sup>12</sup> Probably the most common methodology, among others used by funding bodies in the UK, Canada, Netherlands and Ireland, is the payback framework.<sup>13</sup> Other frameworks have also been developed, sometimes specifically as alternatives to the payback framework. Box 2 provides a summary of various ways in which societal impact has been determined. In all models, some elements are incorporated that are less relevant for health care research.

The overview in Box 2 illustrates that no single framework can be applied integrally in all cases. Instead, it is recommended to carefully select relevant dimensions and indicators, possibly from various models. Which ones to choose – and how to weight them – depends, in part, on the circumstances within a specific country or research field. Below, we will discuss a number of issues to take into consideration when determining the right impact dimensions and indicators for health care research at national and European level, also in light of the launch of *Horizon 2020*.

#### 1. The distinction between ex-post and ex-ante evaluation.

Typically, impact evaluation is conducted after research has been completed and actual impacts can be determined. However, for decisions about the allocation of funding the ex-ante assessment of potential impact is especially important. It requires suitable indicators of future success. Their specification for European health care research needs further development. For example, what are the relevant dimensions of potential impact for a particular area of research and are reviewers aware of this? It involves factors that are known to facilitate impact based on the literature on knowledge utilisation, such as the early involvement of policy makers during the research process, the embedding of a research project in existing networks,<sup>14</sup> or the existence of well-constructed dissemination plans.<sup>15</sup>

“ the application of health care research lies in supporting policy decisions

#### 2. National level versus international impacts

The impact assessment of European-level research differs in a number of ways from that of national research. For one, direct, instrumental use of research for implementation is far less likely to occur at European level as health policy is still more within the realm of Member States. Stakeholders at European level are also less visible than at the level of one single country. Thus, research at European level may have more unobserved effects; e.g. it is difficult to assess whether one or more of 28 Ministries of Health used certain research findings. Impacts depend on the national context – e.g., on how health care is organised. It requires a good understanding of health care systems and their key stakeholders to assess impacts in more than one country.

#### 3. Time span of ex-post evaluations

Typically, assessment methods differ between cross-sectional or short term evaluations versus longer term evaluations. The former are less costly and more practical, but the latter are sometimes seen as preferable. Particularly for individual or population health, it may take up to twenty years before impacts can be determined.<sup>16</sup> This raises the question as to whether such time paths really apply for health care research. After longer durations it becomes increasingly difficult to attribute impacts to a specific study or research programme, as other societal or policy factors may have intervened. As such, the optimal duration depends on a multitude of factors, including the research domain, type of study, funder's objectives, and the particularities of a country's health care system.

**Box 2: Overview of societal impact dimensions in a selection of impact frameworks**

Framework	Societal benefits*
Payback (See Reference 3)	<ul style="list-style-type: none"> <li>• Benefits from informing policy and product development:               <ol style="list-style-type: none"> <li>a. Improved information bases for political and executive decisions</li> <li>b. Other political benefits from undertaking research</li> <li>&lt;c. Development of pharmaceutical products and therapeutic techniques&gt;</li> </ol> </li> <li>• Health and health sector benefits               <ol style="list-style-type: none"> <li>a. Improved health</li> <li>b. Cost reduction in delivery of existing services</li> <li>c. Qualitative improvements in the process of delivery</li> <li>d. Improved equity in service delivery</li> </ol> </li> <li>• Broader economic benefits               <ol style="list-style-type: none"> <li>&lt;a. Wider economic benefits from commercial exploitation of innovations arising from R&amp;D&gt;</li> <li>b. Economic benefits from a healthy workforce and reduction in working days lost</li> </ol> </li> </ul>
Research impact (See Reference 10)	<ul style="list-style-type: none"> <li>• Policy impacts (e.g. nature of policy influence, policy networks, political capital)</li> <li>• Services impact: (e.g. type of services, evidence-based practice, quality of care, cost-containment and cost-effectiveness)</li> <li>• Societal impact (e.g. knowledge, attitudes and behaviour, health literacy, equity and human rights, social capital and empowerment, sustainable development outcomes)</li> </ul>
European Commission (Seventh Framework Programme)	<ul style="list-style-type: none"> <li>• Description of main dissemination activities and exploitation of results</li> <li>• Synergies with science education (involving students or creating science material)</li> <li>• Engagement with civil society and policy makers (e.g. NGOs, government, patient groups) and production of outputs which could be used by policy makers</li> <li>• Use of dissemination mechanisms to reach the general public in appropriate languages</li> <li>• Use and dissemination of the following indicators:               <ol style="list-style-type: none"> <li>a. Articles in (preferably open-access) peer reviewed journals</li> <li>&lt;b. The amount of new patent applications&gt;</li> <li>&lt;c. The amount of Intellectual Property Rights&gt;</li> <li>&lt;d. The amount of spin-off companies created or planned&gt;</li> </ol> </li> <li>• The employment consequences of the project</li> </ul>
Research utilisation ladder (See Reference 11)	<ul style="list-style-type: none"> <li>• Transmission (of research results to practitioners and policy makers)</li> <li>• Cognition (reading and understanding)</li> <li>• Reference (quoting of research results in reports, studies, actions)</li> <li>• Effort (to adopt research results)</li> <li>• Influence (on choices and decisions)</li> <li>• Application (giving rise to applications and extensions)</li> </ul>

Source: Authors.

Note: \* The items in angle brackets <> indicate that they are less relevant for health care research.

#### 4. Methodological considerations

A number of quantitative and qualitative techniques are available to measure impact, each with their own complexities.<sup>9</sup> More quantitative measures run the risk

of oversimplifying matters ('counting beans'), while qualitative – narrative – approaches demand a lot of effort and may tend to focus on success stories which are hard to generalise ('cherry picking'). It is preferable to combine several methods in

order to improve the quality of the impact assessment. This applies especially to health care research, which – given its broad scope – cannot rely on only one or a few simple indicators of societal impact.

## Moving forward

There is growing awareness among health care researchers and funders that assessing societal impact is a key priority for all those involved in producing or funding health care research, especially in times of scarcity. Which impact assessment tool to use is highly dependent on the exact purposes: is the assessment intended for monitoring research performance of health care research or for biomedical research? And is it intended for evaluation of research within one national setting or at European level? The latter is becoming more and more important, not only because of the research opportunities of *Horizon 2020*, but also due to the synchronisation between national initiatives, among others through Joint Actions or Joint Programming Initiatives.<sup>1</sup> It is also important to realise that impact assessment has certain limitations and pitfalls to be avoided. To facilitate the optimal use of impact assessments for our area of research, we think the following issues should be addressed.

- A. Both funders and the research community need to agree upon suitable indicators to assess impact afterwards and predict impact beforehand. What information should be incorporated in the impact section of a research proposal, e.g. for *Horizon 2020*?
- B. With the wide availability of existing impact frameworks it may not be necessary to develop another version, but rather find clever ways to combine elements from different frameworks to best fit the particularities of a certain research topic.
- C. The optimal time span of an impact assessment should be decided on in advance, together with a prioritisation of impact indicators which can realistically be achieved in that time period.
- D. We need a refinement of an impact framework that fits the particularities of different countries across Europe and that involves stakeholders in all European regions. Special emphasis should be given to countries in Eastern and Southern Europe, where capacities are lower.

- E. The development of one single impact factor, as in the case of bibliometric analyses, is not desirable since societal impact consists of different dimensions. Still, it is worth striving for a means to compress impact into a shortlist of key impact indicators.
- F. Impact assessment should not become a goal in itself, but should be used as a tool for impact improvement. For this, continuing dialogue at conferences and smaller-scale meetings is required.
- G. The active involvement of end users, robust dissemination plans with appropriate resources and mid-term reviews should be mandatory for all projects.\*
- H. Public health (care) research should be supported more strongly within the EU and nationally, and must continue to be free of commercial conflicts.\*

To achieve these goals, a continuous dialogue is needed, both within the offices of research funders and research teams, but most importantly in joint dialogues. An end report on societal impact by this group of authors aims to contribute to such a dialogue and will be available by the end of 2013.

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\* Recommendations G and H were taken from a recent report from the Independent Expert Group on EU Public Health Research. See Reference 9.