Future European challenges: Aims for European health research

Positions from the Capital Region of Denmark
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Position paper from the Capital Region of Denmark on EU’s future research priorities within the areas of medicine and health

The Capital Region of Denmark is the place of home for 80% of knowledge intensive industry in Denmark. 70% of all industry funded research in Denmark takes place within the region, and the regions 12 university hospitals and the psychiatric department are responsible for more than 50% of all medicine related research in Denmark. The hospitals and research centres covers research in all fields of medicine, including nursing, preventive medicine and primary healthcare. It covers basic, pre-clinical, clinical and translational research of a very high international standard.

The regions present research policy underlines three main aims of clinical and translational research: 1) To secure state of the art diagnostic and curable healthcare for the citizens; 2) To support education and cutting edge competence development of healthcare professionals; and 3) Through collaboration with both industry and universities, to maintain and expand the existing world-class bio-health cluster.

Within its geographical boarders the Capital Region houses the University of Copenhagen and the Technical University of Denmark, with whom collaboration is close, both strategically and in specific projects. Medical researchers collaborate closely with partners from nanotechnology, ICT, the natural sciences etc. on projects ranging from pure basic science to applied clinical research.

The region also houses The IT-University, the nine independent Advanced Technology Institutes and The Royal Danish Academy School of Architecture, and a very wide range of intermediate and other higher education institutions. All together with this constitutes the largest clinical and translation research environment in Denmark and one of the largest in northern Europe.

Combined with a large number of research-intensive of pharmaceutical, biotechnology and medico technology industry, the region is one of the worlds leading clusters in the bio-health area.

However we predict an increasing demand on the healthcare system and a step increase in health related expenditure, both in our region and in the EU member states. If nothing is done in time, this grand challenge to both economics and health will in a few years prevent the European societies to secure sustainable growth and development. Therefore we would like to make the following observations regarding the strengthening of the European Research Area through the present and future European common actions and initiatives regarding health related research and innovation.

1) The importance of EU-funded research
EU’s contribution to research is important. Arguments that it is but a small percentage to the total European investment in R&D, can be countered with the fact that the Framework Programmes is a vital glue and incentive, binding and spurring research otherwise fragmented and lacking momentum.

None the less, we see a need for substantially increased European funding of investigator driven medical and healthcare research. The present share of 6% of the grand total of the FP7 budget to health research must be raised to a level corresponding with the seriousness of the grand health challenges ahead. We strongly advocate
that a larger share of the EU budget is spent on health related research and innovation in the future.

In the present economic interregnum we would point out that recent studies, both in EU and USA, have shown that investment in medical research offers one of the highest returns of investment. An increase in the budget allocated to health research will therefore not only serve to improve European health care and prevention, but also boost European industry and economy.

2) Medical end healthcare research: A foundation and a driver

Without addressing the fundamental need to (at the very least) keep general health at the present level, all endeavours and politics to prevent future environmental and economic crises will ultimately become null and void.

A number of factors must be kept in mind during the formulation of future research initiatives. General emphasis on clinical and translational research must be strengthened sufficiently. The present focus on investigator driven clinical trials and intervention studies must be kept as a top-priority.

Europe public health faces an increasing daunting range of grand medical challenges: Diabetes and other metabolic diseases, cancer, cardiovascular diseases, infections (re-emerging and new, local and global) and brain related diseases. These are but some of the challenges researchers and health care providers are facing on behalf of the main stakeholder: The Citizens, not only in Europe, but globally.

Coupled with the demographic development and foreseeable difficulties in recruiting healthcare professionals in sufficient numbers, we must also search for solutions that prevent the predicted increase in morbidity, not just cures and care. Preventive medicine and healthy ageing are two key areas that future European research must encompass.

Future research programmes and priorities must be formulated in a way that clearly states the challenge to be solved, but allows more room for the research community to pursue and propose a wider range of means to meet the ends. The tendencies to formulate very detailed tender-like topics can be detriment to obtaining viable solutions.

In this discussion, the success of ERC must not be overlooked. The grants have proven their worth by fostering radical new ideas, impetus for overseas recruitment and intra-European mobility, and have raised the national awareness of the need for support of basic research. We suggest that ERC’s funding ability is raised, and that the special needs of investigator driven clinical research and translational medical research receive special attention.

It must be underlined that not only EU should shoulder an increased effort. National funding, through Joint Programming and other community driven actions, must be harnessed in order to address fragmentation and redundancy and accelerate both curative and preventive medicine.

3) Health is not only in need of medical research

Adjacent areas of new knowledge, needed to obtain results leading to better cure, care and prevention, must also be harnessed to overcome the grand challenge of European and Global health.

Health care absorbs huge sums. Pharmaceuticals with new or improved curative effects are expensive to develop and just as costly to dispense, diagnostic tools and other clinical equipment have greatly improved the ability to discover and treat diseases, but often at an almost prohibitive cost.
If we shall have better means to prevent, detect and cure (in both old and new member states and globally), research and innovation in areas like medico technology, nanomedicine and technology, ICT, food science, biotechnology and environmental research have a vital role to play.

Not to be forgotten is the contribution from social and economic sciences, as part of the solutions might be found in change of public awareness and behaviour, organisational development of health care systems or cultural conceptions.

In conclusion: One of the grandest challenges we all face is European health in its many aspects. Failing to address present and future needs will have repercussions for generations to come, and the positions above is but the first broad introduction to an area of our greatest attention. As EU’s plans for new initiatives, we will of course contribute to the discussions on a more detailed level.

**KEY POINTS – FUTURE CHALLENGES FOR EUROPEAN HEALTH RELATED RESEARCH**

The Capital Region of Denmark, home of 80% of Danish high-tech industry, and the University of Copenhagen and the Technical University of Denmark, being the largest environment for clinical and translational and healthcare research, would like to make the following contribution to the future Framework Programme for research and innovation:

1. One of the greatest challenges to European growth and stability are the threats to general health. These can only be solved in a viable way if the impetus for pan-European cooperation is strengthened political and financial.

2. Present levels of funding for clinical and translational research are low and the areas must receive a larger proportion in the future. As dividends is very high in form of industrial growth and reduced overall future health cost, is can be seen as a long term financial investment as well as an investment in human life and health.

3. Clinical and translational research, investigator driven clinical trails and interventions in areas like ageing, diabetes, cancer, cardiovascular diseases, infections and brain related diseases must have priority, together with preventive medicine and healthy ageing.

4. Future research programmes must allow the proposal of multiple, unforeseen and new solutions to a specific problem. The tendencies to preliminary narrowing the possible paths to an answer must be countered in the future.

5. The funding ability of ERC must be raised in order to secure future radical research. Special attention must be paid to areas of clinical and translational health related research.

6. Research in fields like nutrition and food science, medico technology, nanomedicine, ICT, biotechnology must also be harnessed to secure sound and smart solutions to meet the grand medical challenges. Social science and humanities could also prove pivotal to ensure needed development of Europe’s health care systems.

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*The 2008 study from the British Medical Council shows that each invested pound in cardiovascular disease, the benefits equals a yearly earning 39 pence for ever! This is mirrored by Professor Leon Rosenberg, former Dean of Yale School of Medicine, who in 2002 showed that US medical research annually reduces health costs with approx. 70 billion dollars and creates high income jobs in pharmaceutical, medical and related knowledge-intensive industries.*