Horizon 2020: Report from the EC High Level Group on Health Research and Innovation in the EU

Belgian Royal Academy of Medicine, Bruxelles 23. May 2012

Prof. Liselotte Højgaard, MD DMSc
Chair EMRC The European Medical Research Councils, ESF, Strasbourg
Rigshospitalet, University of Copenhagen & Technical University of Denmark
Why medical research

- Research provides new knowledge
- Research based educations
- Research based patient treatment
- Basis for European medical industry
Medical Research

Basic Research

Translational Research

Clinical Research

Epidemiology & Prevention

A. Innovation for pharma & devices industry

B. Better clinical practice via HTA, Cochrane & Guidelines

New drugs, methods, operations, devices, diagnostics

Academia initiated research, private-public partnership and industry sponsored R &D
FORWARD LOOK

Implementation of Medical Research in Clinical Practice

www.esf.org
"The special case of medicine"

The University Hospitals produce more than 50% of public biomedical research
3 x as much funding to medical research in USA compared to Europe
Coordination & funding: Europe and USA
Medical research: What’s it worth?

Investments in medical research give a return of 39% for each of the following years
Horizon 2020 is a strong research proposal. We need to secure that Health research takes a prominent role to ensure innovation.

Health research 12% of FP 7 funding and 8% of Horizon 2020 proposal and not so much from ERC to clinical medicine.
Europe has an aging population with obesity, cardiac and brain diseases, cancer, allergy, physical disabilities, chronic diseases, infertility, and infectious diseases – and rising health care costs

- Personalised medicine – the revolution of modern medicine
- Prevention - to create lifelong health

Innovation for growth and wealth, investment return 39% p.a.
The case: Personalised Medicine

Paradigm shift with tailored prevention, diagnosis and treatment – based on genes and epigenetics

Biobanks, databases, IT, mathematics and new research models needed

New regulations and approval needed

4P medicine – predictive, preemptive, participatory and personalised
**4P medicine in the US**

NIH and FDA have teamed up on 4P medicine

We need to secure that Europe is not left behind and all innovation goes to the US
Personalised Medicine

Doctor: If this doesn’t help, then come again, and we will get you something else.

Patient: Couldn’t I get the something else right away?
"The Grand Challenges"
It is too complicated to perform clinical research

- Ethical committee
- Medicinal Agency
- Data protection agency
- EudraCT
- ClinicalTrials.Gov
- GCP units
- Data protection regulation

Study plan and protocol
Patient information
Informed consent
SOP*s
Databases and archiving
Quality control also for drugs

The regulatory frameworks needs to be more research friendly
The Blind Men and The Elephant

It was six men of Indostan,
To learning much inclined,
Who went to see the elephant
(Though all of them were blind),
That each by observation might
satisfy the mind.

The first approached the elephant,
And, happening to fall
Against his broad and sturdy side,
At once began to bawl;
'God bless me! but the elephant is
very like a wall!'

The sixth no sooner had begun
About the beast to grope,
Than, seizing on the swinging tail
That fell within his scope,
'I see', quoth he, 'the elephant
Is very like a rope!'

And so these men of Indostan
Disputed loud and long,
Each in his own opinion
Exceeding stiff and strong,
Though each was partly in the
right
And all were in the wrong

John Godfrey Saxe
A new European Strategic Action for Health

Health care in Europe has been a success story -

To a very large extend following research progress.
A new European strategic action for health

New challenges:  
Increase in chronic diseases  
An aging European population  
Rising health care costs

New opportunities:  
New molecular definition of diseases with  
New taxonomy leading to personalised medicine
A new European Strategic Action for Health

Members of the High Level Group

Liselotte Højgaard,
Chair European Medical Research Councils
Professor University of Copenhagen & Technical University of Denmark

André Syrota
Président – Directeur Général INSERM (Institut Nationale de la Santé et de la Recherche Medicale)

Anne Lücke
Head of Department, DRL
Gesundheitsforschung – BMBF (Bundesministerium für Bildung und Forschung)

Sir John Savill
CEO and Deputy Chair of the Medical Research Council (MRC)

Jonathan Knowles
Professor of Personalised Medicine Finland – University of Helsinki

José Mariano Gago
Professor of Physics – Technical University of Lisbon

Achilleas Mitsos
Former Director of DG Research, European Commission
Visiting Professor London School of Economics and Political Science

Ulf Smith
President, Alliance for Biomedical Research in Europe
A new European Strategic Action for Health

The HLG recommends the establishment of a strategic action for healthier Europeans by all relevant stakeholders.

Such an action would better address the scientific and organisational challenges facing European health R & I by allowing these stakeholders to coordinate their activities more effectively.
A new European strategic action for health

Will Europe be able to take advantage of the opportunities?

Can we afford personalised medicine in Europe? Treatment developed for smaller patient groups creates new challenges and calls for urgent action.

Europe can only afford it if we join forces on research, innovation, implementation in health care and sharing of best practices.
A new European strategic action for health

The new strategic action proposes:

Adapted tools, funding means and mechanisms combining national and EU programmes in a collaborative, interdisciplinary and intersectorial approach. Involving patients and the public and covering the whole area from basic, translational and clinical research over Cochrane and health technology assessment to every day use in the clinic.
A new European Strategic Action for Health

Objectives and scope of the action:

- Pooling public efforts by making best use of European funding

- Securing health care industry through research based innovation
  - it will pay off for Europe as health care industry is exploding world wide

- Improve brain circulation, international and transnational mobility, interdisciplinary and intersectorial collaboration with academia, industry and patients

- Improved coordination & exploitation of synergies in research & innovation
A new European strategic action for health

Objectives and scope of the action, continued....

- Provide transparency on research and innovation in Europe to all stakeholders, including citizens and patients
- Provide a forum for the exchange of best practice and sharing of knowledge for all
- Involving on a voluntary basis key stakeholders
A new European strategic action for health

The strategic action will contribute to:

Better addressing of disease challenges, better understanding of the determinance of health through research.

Reducing inequalities in health care through the use of evidence based medicine and sharing of knowledge.

Developing cost effective screening programmes.

Mobilising other fields of science and engineering, social science and humanities for cross disciplinary research.
A new European strategic action for health

Deliverables

- A molecular based redefinition of major diseases (taxonomy by 2020)
- Leading to evidence based personalised medicine
- Through large European databases on well phenotyped patients with clinical information and detailed molecular characterization
A new European strategic action for health

**Deliverables**, continued...

- New concepts for comparative effectiveness research in personalised medicine

- Supporting European multinational clinical trials – in order to validate new innovative products and concepts and to promote rapid introduction in routine patient care
A new European strategic action for health

Deliverables, continued...

• Rapid evaluation of new research results with knowledge available for European patients’ health care and research

• Databases for health care providers with real time, updated, easy to access information

• Education and training of researchers on the specific issues of personalised medicine
A new European strategic action for health

Potential relevant stakeholders:

The Biomedical Alliance, National Funding Agencies, Charities, Scientists through learned societies, Universities, Research institutes as INSERM, MRC, Max Blank, Institute Pasteur, Health Care Providers, including UEMS, The European Hospital and Health Care Federations, Patient Organisations, Health Care and Health Research Ministries, National Boards of Health, The European Medical Research Council, Health Technology Assessment Institutions and other methodologists, including Cochrane, Industry with EFPIA and AIPES, Journal Editors, Health Care Insurers, Health Care Economists, National and EU Regulators, Ethics Committees, Guideline Organisations

All on a voluntary basis
The Tower of Babel

We are together to achieve the best. Some speak English, and some of us try.

We have different backgrounds, and different competencies, but we all share the same values.

The aim for all of us is to strengthen biomedical research and its proper use - and thereby secure better patient treatment and benefits for the society.
ESF and Eurohorcs have unified into Science Europe.

In Europe we need to listen, learn and work together and join forces. For quality and excellence and proven outcomes.

Our budget is 1/3 of US for biomedical research and we have no NIH.
There is a higher need now than at any time before for cutting edge medical research to overcome the Grand Challenges.

To strengthen medical research – for the benefit of patients and society globally.
“I have a dream”

A medical house in Europe for research and research funding from nations & EC.

A home for guidelines, HTA, Cochrane, and best practice in health care.

To strengthen medical research and implementation of research – for the benefit of patients and society in Europe.