EU-funded research on human infectious viral diseases

European Commission
Research DG
Desaintes, Christian
Outline

● What is the role of the EC in European research?
● Contribution of EC to research on infectious diseases?
● International dimension of EC-supported research
● What funding perspectives in short term?
What is the European Union (EU)?

- 27 democratic European countries
- 23 languages
- >490 M people united in diversity
- Member States remain sovereign
- Partial delegation of sovereignty to common EU institutions
- Council, Parliament & Commission in EU decision processes
Situation of research in Europe

- Research is competence of Member States
- Fragmented & duplication of resources
- Not spending enough on research (+/- 2% GDP)
- Bad Status of researchers & barriers to mobility
The role of the EC in research

- **Policy maker**
  - European Research Area,
  - 3% of GDP spent on R&D
  - European Patent, etc.

- **Funding agency**
  - Supporting research done by multi-national, multi-disciplinary teams in pre-defined areas

- **EC manages only 6% of total public R&D investment in the EU**
Implementation of EU research

Member States & EU Parliament

- Framework programmes
- Workprogrammes
- Calls for proposals

FP7

Commission

researchers
EU research: budget of the FPs

(yearly amounts in M€)
## 4 pillars of FP7

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation – Collaborative research</td>
<td>32,30 b€</td>
</tr>
<tr>
<td>Ideas – Frontier Research</td>
<td>7,46 b€</td>
</tr>
<tr>
<td>People – Human Potential</td>
<td>4,73 b€</td>
</tr>
<tr>
<td>Capacities – Research Capacity</td>
<td>4,30 b€</td>
</tr>
</tbody>
</table>
The Cooperation programme

Thematic Priorities

1. Health 6.1
2. Food, agriculture, fisheries and biotechnology 1.9
3. Information and communication technologies 9.1
4. Nanosciences, nanotechnologies, materials and new production technologies 3.5
5. Energy 2.3
6. Environment (including climate change) 1.9
7. Transport (including aeronautics) 4.2
8. Socio-economic sciences and the humanities 0.6
9. Security & 10. Space 2.8

Total for collaborative research €32.4 billion
The Health Theme

main activities ("pillars")

Activity 1: Biotechnology, generic tools & technologies for health
Activity 2: Translating research for human health
Activity 3: Optimising the delivery of health care

cross-cutting issues: international cooperation, SMEs, child health, ageing populations, gender-related health issues

Activity 4: Support actions & response to policy needs
The Health theme pillar 1

1: Biotechnology, generic tools and technologies

- High-throughput research
- Detection, diagnosis and monitoring
- Predicting suitability, safety and efficacy of therapies
- Innovative therapeutic approaches and interventions
The Health theme pillar 2

2: Translating research for human health

- Integrating biological data and processes: large-scale data gathering, systems biology
- Research on the brain and related diseases, human development and ageing
- Translational research in major infectious diseases
- Translational research in other major diseases
The Health theme pillar 3

3: Optimising the delivery of healthcare

- Translating clinical research into clinical practice
- Quality, efficiency and solidarity of healthcare systems
- Enhanced health promotion and disease prevention
- International public health & health systems
4: Actions across the Theme

- Coordination & Support Actions across the theme
- Responding to EU policy needs
### Health Projects funded in 2009

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Nr. of projects</th>
<th>Proposed EU contribution (€ million)</th>
<th>Average EU contribution (€ million)</th>
<th>% of budget</th>
<th>Average nr of partners per project</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP-IP</td>
<td>33</td>
<td>362</td>
<td>11.0</td>
<td>59 %</td>
<td>16</td>
</tr>
<tr>
<td>NoE</td>
<td>1</td>
<td>12</td>
<td>12.0</td>
<td>2 %</td>
<td>33</td>
</tr>
<tr>
<td>CP-FP (medium)</td>
<td>25</td>
<td>128</td>
<td>5.1</td>
<td>21 %</td>
<td>12</td>
</tr>
<tr>
<td>CP-FP (Small)</td>
<td>36</td>
<td>97</td>
<td>2.7</td>
<td>16 %</td>
<td>8</td>
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<tr>
<td>CSA</td>
<td>11</td>
<td>12</td>
<td>1.1</td>
<td>2 %</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>106</strong></td>
<td><strong>610</strong></td>
<td><strong>5.75</strong></td>
<td><strong>100 %</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**Average grant**
- € 5.75 million per project
- 12 partners (average award €485,000 per partner)
Innovative Medicines Initiative

- Support ‘pre-competitive pharmaceutical research and development’, in order to accelerate the development of safer and more effective medicines for patients.

- Foster collaboration between industry, academia, patient organisations (including regulators), clinical centres, etc.

- Addresses the challenges in the development process of drugs, rather than aiming to deliver new medicines.
Infectious Diseases in FP7

- Anti-microbial resistance
- Poverty-related diseases (PRD):
  - HIV/AIDS, Malaria, TB
- Emerging infectious diseases:
  - Influenza
  - Emerging diseases
- Neglected infectious diseases
Emerging Epidemics
EU Influenza Research in the 21st Century

- Early start, continuous effort
- Good balance animal/human
- New projects building on the results from previous research
- 2010: New focus on antivirals and animal surveillance

Animal Flu
Human Flu
A big, collaborative EU effort with broad international dimension

>€100M since 2000, with 54 projects

Around 300 partner laboratories, companies and institutions, from 57 countries:

- All 27 EU Member States
- + Bosnia-Herzegovina, Croatia, Norway, Switzerland, Israel
- + Australia, Armenia, Azerbaijan, Cambodia, Canada, China, Gabon, Georgia, Iceland, Indonesia, Iraq, Jordan, Kenya, New Zealand, Nigeria, Pakistan, Russia, South Africa, Syria, Taiwan, Thailand, Trinidad and Tobago, Turkey, USA, Vietnam...
- Many public-private partnerships (SMEs, pharma)
- More than a thousand scientists

EUROPEAN UNIVERSITIES, PUBLIC RESEARCH CENTERS AND INSTITUTIONS IN EU FLU PROJECTS:
- Human influenza
- Animal influenza

PRIVATE COMPANIES:
- Human influenza
- Animal influenza
Why EU support to research on influenza?

- Foster strong European scientific excellence in the field
- Strengthen EU industrial competitiveness (EU is the largest vaccine supplier in the world)
- Support to the EU Preparedness and Response Plan
- Support to the European Centre for Disease Prevention and Control (ECDC)
The Influenza Research Portfolio

- Vaccines and Correlates of Protection
- Diagnostics and Surveillance
- Biology, Target Search and Drug Discovery
- Public Health Aspects, Networking and Training
FP7 projects on other emerging viral diseases +/- €55M

- 1 project on surveillance of emerging diseases (EMPERIE)
- 1 project on Congo-Crimean Hemorrhagic Fever (CCH FEVER)
- 3 projects on West Nile virus (VECTORIE, WING, EuroWestNile)
- 2 projects on Chikungunya (VECTORIE, ICRES)
- 1 project on RNA Viruses (SILVER)
- 1 project on vectors of viral diseases (EDENext)
Management of unexpected emerging and infectious Disease

EMPERIE

Network combining the expertise, techniques and resources necessary for effectively countering (re)- emerging infectious diseases

Collecting new viruses from animals and humans

Virtual technology platform for identification of novel viruses against samples with known infectious agents

Rapid epidemiological characterisation of an emerging epidemic and optimisation of control options = Rapid research response!
New EC-funded project on vectors: EDENext

Biology and control of vector-borne infections in Europe
€12M from EC, 4 years, 46 partners

- Biology, ecology & epidemiology of vector-borne diseases (VBD)

- Tools for their control

- Arthropod vectors in Europe
  - ticks, mosquitoes, sand flies, biting midges

- Rodents and insectivores also considered

- Main diseases of importance in humans and animals
HIV, Tuberculosis, Malaria
Phase IV Trials
(1000+ subjects)

Phase III Trials
(100+ subjects)

Phase I Trials
(10+ subjects)

Preclinical Research
(mice, rabbits, monkeys...)

Basic Research

FP6 HIV/ TB/ Malaria research

Large Scale projects

Small Scale projects

DRUGS
VACCINES
MICROBICIDES

EFFICACY

SAFETY

Large Scale projects

Small Scale projects

FP6  HIV/ TB/ Malaria research
European and Developing Countries Clinical Trials Partnership (EDCTP)

Development of new clinical interventions to fight HIV/AIDS, Malaria & TB in Africa

● Clinical Trials (phase II / III) in Africa
  ▶ HIV/AIDS
  ▶ Malaria
  ▶ TB

● Capacity Building
  ▶ Training
  ▶ Epidemiological studies
  ▶ Ethics
  ▶ South-North Networking
  ▶ Fellowships
**FP6 HIV/TB/Malaria research**

- **Phase IV Trials**: (1000+ subjects)
- **Phase III Trials**: (100+ subjects)
- **Phase I Trials**: (10+ subjects)

**Preclinical Research**
(mice, rabbits, monkeys...)

**Basic Research**

**EDCTP**
(Clinical Trials)

**DRUGS VACCINES MICROBICIDES**

**European and Developing Countries clinical Trials Partnership**
for capacity building and advanced clinical trials in sub-Saharan Africa

**Small Scale projects**

**Large Scale projects**

**SAFETY**

**EFFICACY**

EC funding commitment to the EDCTP of €200 million
<table>
<thead>
<tr>
<th></th>
<th>Discovery</th>
<th>Translational</th>
<th>Clinical</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV infection and Aids</td>
<td>30,5</td>
<td>63,4</td>
<td>37</td>
<td>130,9</td>
<td>28,6%</td>
</tr>
<tr>
<td>Malaria</td>
<td>34,1</td>
<td>31,3</td>
<td>0</td>
<td>65,4</td>
<td>14,3%</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>22,4</td>
<td>38,7</td>
<td>0</td>
<td>61,1</td>
<td>13,4%</td>
</tr>
<tr>
<td>EDCTP</td>
<td>-</td>
<td>-</td>
<td>200*</td>
<td>200</td>
<td>43,7%</td>
</tr>
<tr>
<td>Total (%)</td>
<td>87,0</td>
<td>133,4</td>
<td>237</td>
<td>457,4</td>
<td>100%</td>
</tr>
</tbody>
</table>
214 m€  57 projects*

- **Treatment**
  - New drugs, Therapeutic vaccines

- **prevention**
  - Vaccines (antigen design, adjuvants, new delivery systems)
  - Microbicides
  - Optimisation of clinical trials
  - Cohort studies (mother to child, seroconversion, resistance)

- **Trans-cutting**
  - Biology
  - Common platforms, training

* Not including: EC funding commitment to the EDCTP of € 200 million

# 4 first calls only up to 2010
FP6-FP7# Malaria research

Total ~ € 150 m€ *

- Basic research
- Drugs
- Vaccines
- Vector
- Diagnostics
- Other

# 4 first calls only up to 2010
* incl FP6 funds through EDCTP (not yet all committed)
 FP6 - FP7 # Tuberculosis research

+/ - 125 m€

- Treatment
- prevention
  - Drug Discovery and Preclinical Development (Under negotiation)
- Diagnostics
- Multi-drug resistance
- Others

# 4 first calls only up to 2010
International Dimension of the EU FP7

39 fully participating countries:

27 EU Member States
- Iceland
- Israel
- Liechtenstein
- Norway
- Switzerland
- Turkey
- Albania
- Croatia
- FYR Macedonia
- Serbia
- Bosnia-Herzegovina
- Montenegro
International Cooperation in FP7

- **All activities open for International Cooperation**
  - International Cooperation Partner Countries (ICPCs) can participate in projects and receive EC funding
    - (ID, MM, TH, VN, MY, KH, LA, PH + CN)
  - Industrialised countries* may be funded only if their participation is seen as essential for the project or if provided for in the call
    - (SG, BN + KR, JP)
  - Minimum number of participants: 3 from MS/AC

- **Specific International Cooperation Actions**
  - Address specific issues that partner countries face or have a global character, on the basis of mutual interest and benefit
  - Minimum number of participants: 2+2 (2 from MS/AC + 2 from ICPCs)

* USA is eligible in health programme
International Cooperation in FP7

- **Bilateral agreements for targeted co-funding**
  - Individual agreements with specific countries e.g. Russia, China, Egypt

- **Programme level cooperation**
  - In large scale endeavours where tasks can be divided in sub-projects
  - Funding agencies and scientists design the “Meta”-project – agreeing on broad common principles
  - Each agency issues calls according to own rule
  - Projects are funded and required to work together
  - Otherwise no contractual link
Human Microbiome projects in the world*


THE PROLIFERATION OF HUMAN MICROBIOME PROJECTS

Canadian Microbiome Initiative
$10 million
Human Microbiome Project (United States)
$115 million
MicroObes (France)
$3 million
MetaHIT (EU and China)
$31 million
Human Gastric Microbiome (Singapore)
$750,000
Human MetaGenome Consortium (Japan)
$5 million
Meta-GUT (China)
$1.5 million
Australian Urogenital Microbiome Consortium
$600,000

All figures are estimates of cost in US dollars
International Human Microbiome Consortium (IHMC)

- **Aim:** coordinate efforts in human microbiome research

- **Formalized in Letter of Intend signed in 09/08 (EC & NIH)**

- **Current members present in all 5 continents**
  - 7 full members (US, EU, FR, CA, AU, JP, GM), 2 observing members (KR, IE), 2 potential members (CN, SG)

- **5 Principles:**
  - Free and open release of data and resources generated;
  - sharing info on new approaches and technologies
  - sharing production plans (lists of microbes to be sequenced, plans for metagenomic sequencing and analysis, etc.)
  - Coordination of public communications (common Web portal)
  - Coordination of archiving and distribution
### ASEAN participation in FP7 Research projects

<table>
<thead>
<tr>
<th></th>
<th>All Countries</th>
<th>Third Countries (Non-EU, Non-AC)</th>
<th>ASEAN Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposals received</td>
<td>42.248 (237.662)</td>
<td>6.997 (14.466)</td>
<td>443 (533)</td>
</tr>
<tr>
<td>(N° of participations)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grant Agreements</td>
<td>6.833 (40.729)</td>
<td>958 (2.117)</td>
<td>94 (105)</td>
</tr>
<tr>
<td>(N° of participations)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU funding</td>
<td>€12.701 M</td>
<td>€213,7 M</td>
<td>€11,0 M</td>
</tr>
</tbody>
</table>
ASEAN participation in FP7 Research projects

Participations in proposals submitted: **468**
Participations in proposals selected*: **93** (EU funding €**11M**)

* As of May 2010
FP7 SEA-EU-NET project

- **Objectives**
  - To expand scientific collaboration between EU and ASEAN in a more strategic and coherent manner

- **4 years 2008-2011**

- **16 institutions from the 2 regions**
  - DE, UK, NL, FR, AU, HU, PO, TR
  - SG, MY, ID, VN, TH

SEA-EU-NET: Objectives

- To strengthen bi-regional and bi-lateral dialogues in S&T cooperation and assist the joint identification of topics for collaboration under FP7 and beyond

- To report to the EC and EU-presidencies for incorporating recent political developments and for highlighting EU-ASEAN initiatives within the political decision making process

- To network different stakeholders for strengthening research capacity

- To facilitate development and implementation of a coherent European level approach towards international S&T cooperation
2.1.1 - large-scale data-gathering:
- 2.1.1-3 Large-scale genomics approaches to identify host determinants of infectious diseases

2.3 - Translational research in major infectious diseases
- 2.3-1- Anti-microbial drug resistance: 5 topics
- 2.3.2 - HIV/AIDS, malaria and tuberculosis: closed in 2011
- 2.3.3 - Potentially new and re-emerging epidemics: 3 topics
- 2.3.4 - Neglected infectious diseases: closed in 2011
2011 HEALTH call 2.3.3
Potentially new and re-emerging epidemics

2.3.3-1 Identification of factors promoting the emergence of pathogens with human pandemic potential from pathogens with a zoonotic background and related prevention strategies.

► Funding scheme: collab. project, max €12m, single-stage, max one proposal

2.3.3-2 Comprehensive control of Dengue fever under changing climatic conditions. (SICA: Asia & Latin America)

► Funding scheme: collab. project, max €6m, single-stage, one or more proposals.

2.3.3-3 Development of an evidence-based behavioural and communication package to respond to major epidemic outbreaks.

► Funding scheme: collab. project, max €2m. 2-stage, one or more proposals.
2011 FOOD/AGRI/FISH/BIOTECH call Animal Health

KBBE.2011.1.3-01: New/next generation of researchers for Neglected Zoonoses at the animal-human interface

- Funding scheme: Coordination & support action, max €2m
- SME at least 15% budget
- SICA: 3 MS/AS + 3 ICPC (of which at least 2 in Africa)

KBBE.2011.1.3-02: Development of field tests for rapid screening of pathologies as well as simple laboratories tests in animals

- Funding scheme: collaborative project, max €3m
- SME at least 50% budget

KBBE.2011.1.3-03: European interprofessional network addressing zoonotic diseases transmitted via companion animals

- Funding scheme: Coord & sup. action, max €1m
Thank you

European Commission
Research DG
Desaintes, Christian
From policy to funding the best research projects

• The policy for Health research is described in the FP7 specific programme (available on CORDIS)

• Each year, a work programme is prepared by the EC, based on consultation of scientific community, and discussed with the Advisory Group and with the Programme Committee (MS & AC)

• calls for proposals invite researchers to submit

• The best projects are selected on the basis of evaluation by a panel of independent experts (peer review)

• After negotiation of a grant agreement, a project is normally funded for 2-5 years.
EU influenza vaccine research

- MUCADJ: Mucosal adjuvants for intranasal influenza immunization
- FLUPAN: H7N1 vaccine: safe and immunogenic in clinical trials
- NOVAFLU: Improving strain selection for epidemic and pandemic flu, novel vaccine candidates
- SARS/FLU VACCINE: Combined Influenza/SARS Vaccine
- FLUVACC: Live-attenuated Replication-Defective (DelNS1) Influenza Vaccine
- UNIVERSAL VACCINE: “Universal” flu vaccine based on M2 protein

- Chimeric Vaccines: delNS1 virus as a vector for foreign antigens
- PANFLUVAC: ISCOM-adjuvanted, intranasal, virosomal H5N1 vaccine
- Intranasal H5vaccine: DelNS1 H5N1 vaccine, novel sialic acid analogue-based immune correlates
- FluVac: CoVaccine HT-adjuvanted, inactivated whole-virus H5N1 vaccine
- NASPANVAC: Chitosan-adjuvanted intranasal pandemic H5/H7 vaccine
- IMECS: Identification of mechanisms correlating with susceptibility for AI
Detection and surveillance:

Still too slow and unspecific  
Can be made more cost-effective

- PORTFASTFLU, FLUARRAY and RANGER: rapid point-of-care diagnostic tests for human influenza
- FLUMODCONT: Modelling pandemic spread and mitigation strategies
- AsiaFluCap: Health system analysis and capacity development of pandemic response in Asia
Drugs and treatment for influenza

- EUROFLU and FLUPATH: Virus-host interactions, transmissibility, pathogenicity, cell tropism
- FLUINNATE and INN-FLU: focus on innate immunity
- RNAFLU: Effect of natural viral RNA sequence variation on influenza virus RNA function
- FLUPOL (exclusively influenza) and VIZIER (several RNA viruses): Characterise structure of viral replication enzymes - targets for antiviral drugs
- FLUINHIBIT: Inhibitors of the trimeric influenza virus polymerase complex
- FluDrugStrategy: Screen and test capsid-inhibitors in a new morphological assay
- CATAFLU.OR: Organocatalytic approaches to oseltamivir derivatives
- RespViruses: Immune response in elderly to known and new respiratory viruses
Influenza FP7 projects: €50M

- **Vaccines**
  - FLUVAC
  - IMECS
  - NASPANVAC

- **Detection**
  - Fluarray
  - PORTFASTLU
  - RANGER
  - ASI AFLUCAP
  - FLUMODCONT

- **Drugs**
  - FLUINHIBIT
  - FluDrugStrategy
  - CATAFLUO.OR

- **Biology**
  - RNAFLU

- **Social & law**
  - PHLawFlu

Influenza FP7 projects include:
- Vaccines
- Detection
- Drugs
- Biology
- Social & law

- **Influenza FP7 projects timeline:**
  - 2008
  - 2009
  - 2010
  - 2011
  - 2012
  - 2013
  - 2014
  - 2015

- **5th call H?**
- **6th call H?**
- **7th call H?**

**Influenza FP7 projects:**
- Vaccines
- Detection
- Drugs
- Biology
- Social & law

- **Influenza FP7 projects timeline:**
  - 2008
  - 2009
  - 2010
  - 2011
  - 2012
  - 2013
  - 2014
  - 2015

- **5th call H?**
- **6th call H?**
- **7th call H?**
<table>
<thead>
<tr>
<th>Disease/Programme Area</th>
<th>No of Projects</th>
<th>Total EC Cash Funding (€M)</th>
<th>Member States Funding (€M) (A1:A4)</th>
<th>Third Party Funding (€M) (TP1-TP2-TP3)</th>
<th>Total Project Value (€M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV/AIDS clinical trials</td>
<td>20</td>
<td>31.34</td>
<td>43.55</td>
<td>19.46</td>
<td>94.35</td>
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<tr>
<td>Tuberculosis clinical trials</td>
<td>14</td>
<td>30.18</td>
<td>24.43</td>
<td>27.44</td>
<td>82.05</td>
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<tr>
<td>Malaria clinical trials</td>
<td>10</td>
<td>35.04</td>
<td>23.24</td>
<td>10.49</td>
<td>68.77</td>
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<tr>
<td>Networking &amp; NoE</td>
<td>15</td>
<td>7.32</td>
<td>3.69</td>
<td>0.60</td>
<td>11.61</td>
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<tr>
<td>Career &amp; Senior Fellowships</td>
<td>28</td>
<td>5.01</td>
<td>0.42</td>
<td>0.19</td>
<td>5.62</td>
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<td>Ethics</td>
<td>36</td>
<td>2.36</td>
<td>0.28</td>
<td>0.10</td>
<td>2.74</td>
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<tr>
<td>Scholarships (MSc &amp; PhD)</td>
<td>14</td>
<td>1.07</td>
<td>0.19</td>
<td>0.04</td>
<td>1.30</td>
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<tr>
<td>Joint Programme Activities</td>
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<td>0.60</td>
<td>0.00</td>
<td>0.00</td>
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<td>Information Management</td>
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<td>0.00</td>
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<td>National Regulatory Authorities</td>
<td>2</td>
<td>0.64</td>
<td>0.16</td>
<td>0.47</td>
<td>1.27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>142</strong></td>
<td><strong>113.88</strong></td>
<td><strong>95.96</strong></td>
<td><strong>58.79</strong></td>
<td><strong>268.63</strong></td>
</tr>
</tbody>
</table>
Increased focus on fewer areas
- to increase critical mass, impact and visibility
- therefore, more areas closed in each call

Overarching features: clinical trials, SMEs*
- *SME topics: broad, 2-stage, several projects/topic

Larger pilot projects may be introduced

International cooperation

No increase in budget in 2011 and 2012, but significant in 2013

Coherence with IMI priorities and complementarities with EDCTP
International cooperation in HEALTH call 2011

- All topics are open for “bottom-up” International Cooperation
  - US participation is “unconditional” as in the previous call
- Some SICAs
- Targeted opening towards International Cooperation
- Programme Level Cooperation with specific countries
- Global challenges for cooperation with several 3rd countries
- Europe as facilitator of global action
International cooperation in HEALTH call 2011

- Programme-Level Cooperation with:
  - Russia: 1.1.3, HTP Proteomics
  - India: 2.2.1-4, Neurodegenerative Diseases
  - India: 2.4.1-3, Cancer from Infectious Agents
  - Brazil: 1.1.4-5, Inflammatory and Autoimmune diseases
  - Brazil: 3.4-3, Multilateral cooperation in Public Health
  - USA and Canada in Large-Scale Data Gathering: 2.1.1-1, The Human Epigenome

- Specific International Cooperation Actions:
  - 2.1.1-4, Pop. Genetics on Cardio-Metabolic Disorders
  - 2.3.3-2, Control of Dengue Fever
  - 3.4-1, Reproductive Health and Health Equity
  - 2.4.3-4, Obesity and/or Diabetes in Specific Populations

- Other topics of particular international nature:
  - 2.3.3-1, Zoonotic Viruses
  - 2.3.3-3, Major Epidemic Outbreaks
  - 3.3-1, Determinants of Health
  - 3.4-2, Research Capacity
  - 4.2-1, Paediatric Medicines