Innovative Medicines Initiative

What IMI means for POLAND

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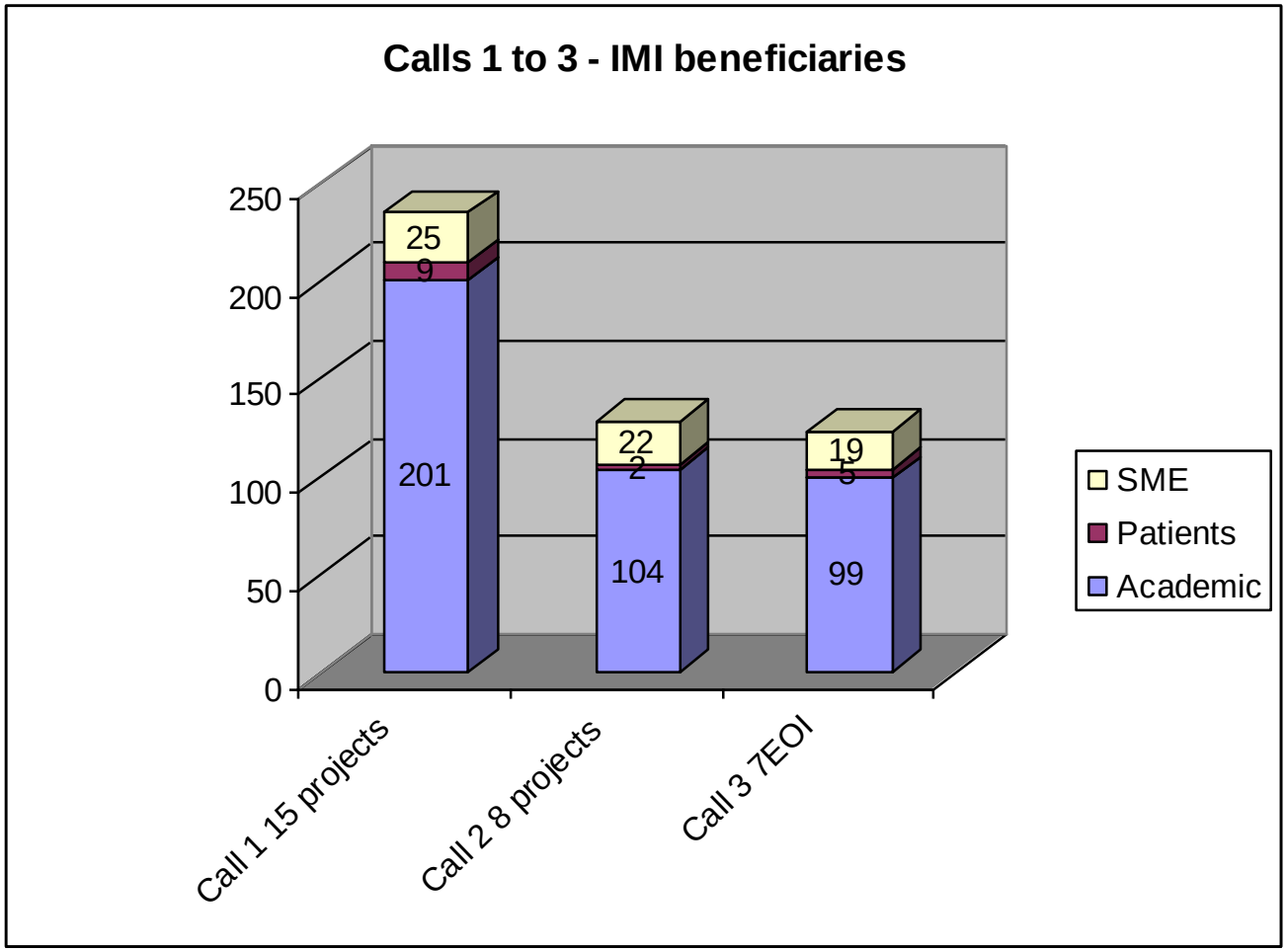
efpia

History of calls

1st call	– 15 projects (395 teams)	€281 mln
2nd call	– 8 projects (193 teams)	€171 mln
3rd call	– stage of negotiations	
	7 successful expressions of interest (123 teams) estimated budget €171 mln	
4th call	– open and creates opportunities	

Statistical data about calls



POLISH SUCCESSFUL STORIES

1st call - **UBIOPRED** - **UNBIASED BIOMARKERS FOR THE PREDICTION OF RESPIRATORY DISEASE OUTCOMES**

€ 20.685.241 (26 public partners)

The Jagiellonian University Medical College, Krakow, Poland

2nd call - **EHR4CR - ELECTRONIC HEALTH RECORDS SYSTEMS FOR CLINICAL RESEARCH**

€ 16.051.514 (21 public partners)

Medical University of Warsaw, Poland

4th call – call themes

EU MEDICAL INFORMATION SYSTEM

1. A EUROPEAN MEDICAL INFORMATION FRAMEWORK (EMIF) OF PATIENT-LEVEL DATA TO SUPPORT A WIDE RANGE OF MEDICAL RESEARCH
2. ETRIKS: EUROPEAN TRANSLATIONAL INFORMATION & KNOWLEDGE MANAGEMENT SERVICES

CHEMISTRY, MANUFACTURING AND CONTROL

3. DELIVERY AND TARGETING MECHANISMS FOR BIOLOGICAL MACROMOLECULES
4. IN VIVO PREDICTIVE BIOPHARMACEUTICS TOOLS FOR ORAL DRUG DELIVERY
5. SUSTAINABLE CHEMISTRY – DELIVERING MEDICINES FOR THE 21ST CENTURY

TECHNOLOGY AND MOLECULAR DISEASE UNDERSTANDING

6. HUMAN INDUCED PLURIPOTENT STEM (HIPS) CELLS FOR DRUG DISCOVERY AND SAFETY ASSESSMENT
7. UNDERSTANDING AND OPTIMISING BINDING KINETICS IN DRUG DISCOVERY

4th call specific topics

1. A EUROPEAN MEDICAL INFORMATION FRAMEWORK (EMIF) OF PATIENT-LEVEL DATA TO SUPPORT A WIDE RANGE OF MEDICAL RESEARCH

- Information Framework / Knowledge Management Service Layer
- metabolic complications of obesity
- protective and precipitating markers for the development of Alzheimer's disease (AD) and other dementias.

3. DELIVERY AND TARGETING MECHANISMS FOR BIOLOGICAL MACROMOLECULES

- drug development (e.g. of biological macromolecules in a pre-clinical or clinical experimental medicine setting);
- molecular and cellular biology of cellular uptake mechanisms of macromolecules;
- protein and nucleic acid chemistry, e.g. for conjugation with targeting molecules;
- manufacturing and characterisation of biological macromolecules;
- nanotechnologies

4th call specific topics

5. SUSTAINABLE CHEMISTRY – DELIVERING MEDICINES FOR THE 21ST CENTURY

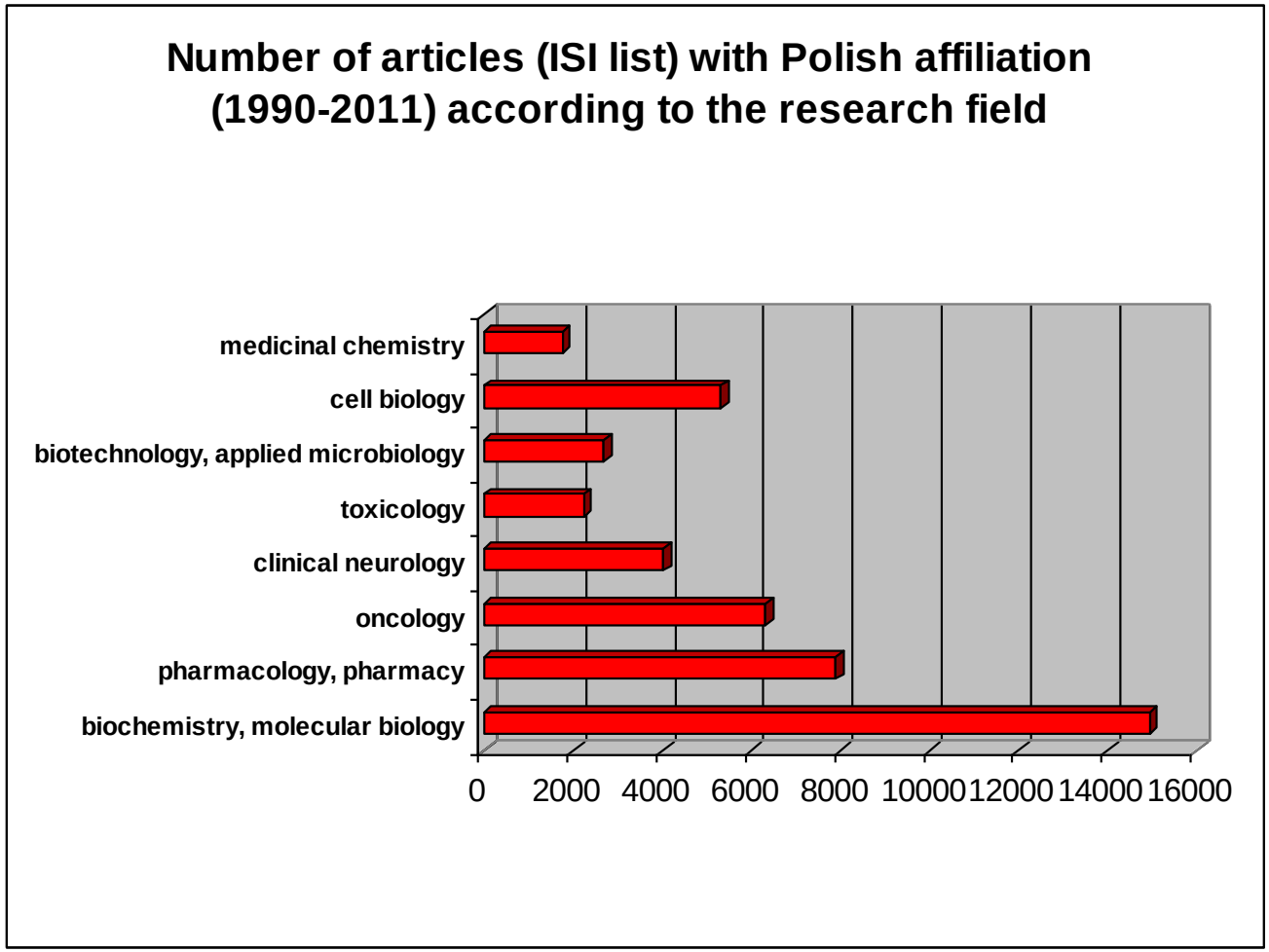
- The discovery of new synthetic methodologies for the development and manufacture of small molecule medicines which are demonstrably more sustainable than existing methods. Methods should be derived from the following approaches:
  - novel organic and organometallic catalysis
  - process intensification / flow chemistry
  - biocatalysis
  - synthetic biology
- The exemplification of sustainable chemistry principles into PhD and Post-Doctoral medicinal and process chemist education and training. This exemplification will hopefully lead to broader uptake by the European academic community following the lead of EFPIA consortium members.

4th call specific topics

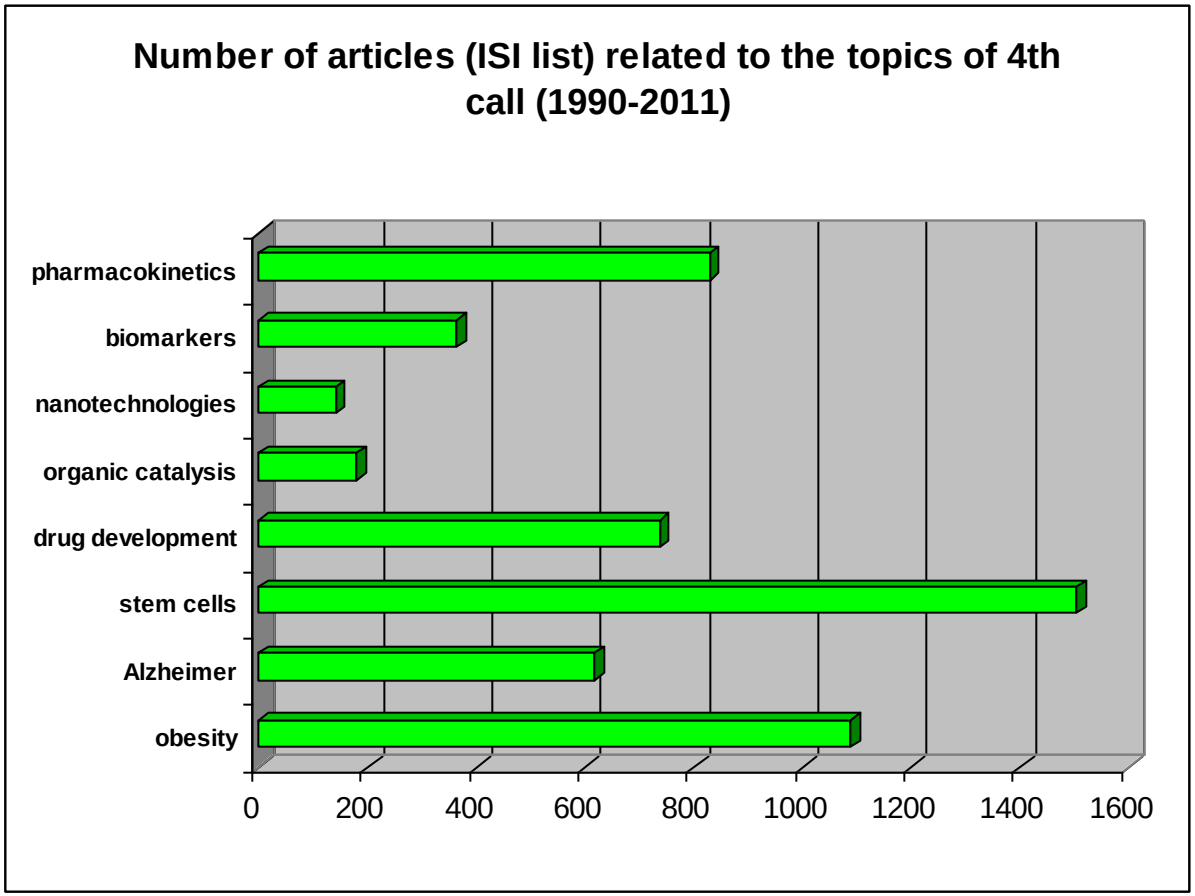
6. HUMAN INDUCED PLURIPOTENT STEM (HIPS) CELLS FOR DRUG DISCOVERY AND SAFETY ASSESSMENT

- Facilitate access to a defined number of well characterised, genetically diverse iPS-derived cell types in large scale for pharma and academia in Europe.
  - o Focus on relevant cell types representative of genetically determined disease phenotypes such as diabetes, neurodegenerative disorders, QTrelated genotypes, and of cell types of major interest for safety assessment in four major organs i.e. liver (e.g. hepatocytes, stellate cells, Kupffer cells), kidney (podocytes, epithelial tubular cells, fibroblasts); heart (cardiomyocytes) and gut (epithelial cells and enteroendocrine cells). Depending on outcome, other tissue types such as vasculature (smooth muscle and endothelial cells) and skeletal muscle may be also included.
- Focus selection of patient populations on diseases either wholly or partially genetically-driven, with major focus on neuro-dysfunctional disorders and diabetes. Diseases of the central nervous system include autism, Parkinson's disease, schizophrenia, depression, and Alzheimer's disease. Diabetes, Type 1 and Type 2, including the investigation of a variety of organs/cell types, including beta cells, adipocytes, sensory neurons, liver cells, entero endocrine cells and skeletal muscle cells
- Set up a framework to o optimise cell-based assays predictive of preclinical or clinical toxicity for liabilities in target organs to be defined;
  - o optimise assays predictive for the understanding of disease biology and of compound efficacy for a panel of diseases defined above;
  - o optimise protocols for the appropriate culture, differentiation, expansion and maintenance of stem cell derived cell-types, in particular multicellular, organotypic 3-dimensional cell cultures.
- manufacturing and characterisation of biological macromolecules;
- nanotechnologies

Polish expertise



Opportunities in 4th call



Opportunities for Polish researchers and Poland

1. **Direct participation of Polish research groups in IMI projects**
2. **Creation of international networks of collaboration – even without financial support from IMI**
3. **Participation in post IMI projects – namely drug development projects based on IMI achievements**
4. **Involvement of Polish SMEs – especially from biotechnology sector.**

IMI coordination in Poland: The National Centre for Research and Development (Izabela Rzepczyński)