Driving innovation

<u>A-Z</u>

Product Type

Explore projects by product type

Improving Research

Discover projects that are developing novel research tools and designs

Patient Safety

View projects which are making a contribution to patient safety

Medicines Life Cycle

Select projects by the stage of the medicines life cycle being addressed

Beyond Medicines

Browse projects that are addressing areas beyond medicines development

Tackling Diseases

Filter projects by the disease area being tackled







Choose a product area

Antibiotics
Biologicals
Diagnostics
Vaccines







Antibiotics

- Biologicals
 Diagnostics
 Vaccines

¹IMI1 ²IMI2





COMBACTE¹ COMBACTE-CARE¹ COMBACTE-MAGNET¹ ENABLE¹ iABC¹



Biologicals

- Antibiotics
- DiagnosticsVaccines

¹IMI1 ²IMI2





ABIRISK¹ COMPACT¹



EBODAC² EbolaMoDRAD² PreDiCT-TB¹

Diagnostics

- Antibiotics
- BiologicalsVaccines







Vaccines

- Antibiotics
- Biologicals
- Diagnostics

ADVANCE¹ BioVacSafe¹ EBOMAN² EBOVAC1² EBOVAC2² FLUCOP¹ VSV-EBOVAC²





Improving Research

ADAPT SMART ²	eTOX ¹
ADVANCE ¹	eTRIKS ¹
COMBACTE ¹	EU-AIMS ¹
COMBACTE-MAGNET ¹	European Lead
COMPACT ¹	Factory (ELF) ¹
DDMoRe ¹	GetReal ¹
DIRECT ¹	IMIDIA ¹
Dry age-related	K4DD ¹
macular degeneration ²	MARCAR ¹
EBiSC ¹	NEWMEDS ¹
EHR4CR ¹	OncoTrack ¹
EPAD ¹	Open PHACTS ¹
	ORBITO ¹
	PharmaCog ¹

PRECISESADS¹ PREDECT¹ PreDiCT-TB¹ PROTECT¹ QuIC-ConCePT¹ RADAR-CNS² SAFE-T¹ SPRINTT¹ StemBANCC¹ SUMMIT¹ ULTRA-DD¹ VAC2VAC²







ABIRISK¹ ADAPT SMART² BioVacSafe¹ eTOX¹ MARCAR¹ MIP-DILI¹ PROTECT¹ RADAR-CNS²









Choose a stage of the medicines life cycle



- Development (Pre-Clinical and Clinical)
- Discovery
- Manufacturing
- Medicines Use







Development (Pre-Clinical and Clinical)

• Discovery

¹IMI1 ²IMI2

- Manufacturing
- Medicines Use

ABIRISK ¹	EMIF-AD ¹	Ν
ADAPT SMART ²	EMIF-Metabolic ¹	C
BTCure ¹	ENABLE ¹	C
CANCER-ID ¹	EPAD ¹	Ρ
COMBACTE ¹	eTOX ¹	Ρ
COMBACTE-CARE ¹	EU-AIMS ¹	Ρ
COMBACTE-MAGNET ¹	EuroPain ¹	P
DDMoRe ¹	FILODIAG ²	R
DIRECT ¹	FLUCOP ¹	R
EBiSC ¹	GetReal ¹	S
EBODAC ²	iABC ¹	S
EbolaMoDRAD ²		S
EBOVAC1 ²	INNODIA ²	l
EBOVAC2 ²	MARCAR	\lor
EHR4CR ¹	Mofina ²	

OncoTrack¹ ORBITO¹ PharmaCog¹ PRECISESADS¹ PREDECT¹ PROactive¹ RADAR-CNS² RAPP-ID¹ SAFE-T¹ SPRINTT¹ SUMMIT **J-BIOPRED**¹ VSV-EBOVAC²







Discovery

- Development (Pre-Clinical and Clinical)
- Manufacturing
- Medicines Use

AETIONOMY¹ APPROACH¹ BTCure¹ COMPACT¹ ENABLE¹ EU-AIMS¹ European Lead Factory (ELF)¹ EuroPain¹ INNODIA² K4DD¹ PRISM² TRANSLOCATION¹ ULTRA-DD¹







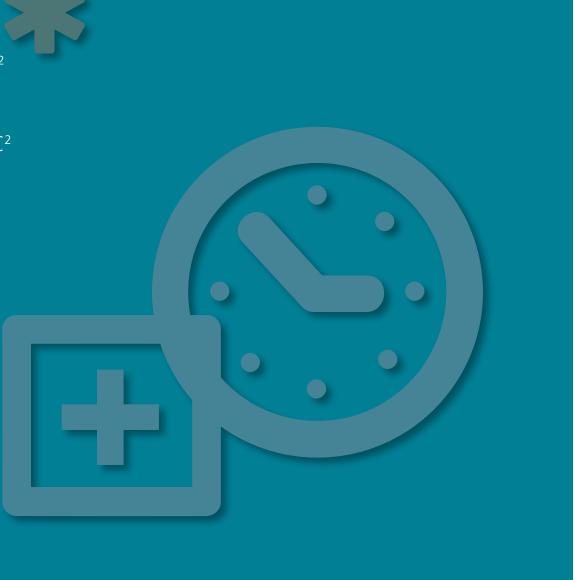
ADAPT SMART² CHEM21¹ EBOMAN² iPiE¹ VAC2VAC²

Manufacturing

- Development (Pre-Clinical and Clinical)
- Discovery

¹IMI1 ²IMI2

• Medicines Use









ADAPT SMART ²
DRIVE-AB ¹
Eu2P ¹
GetReal ¹
iPiE ¹

PROactive¹ PROTECT¹ RADAR-CNS²

Medicines Use

- Development (Pre-Clinical and Clinical)
- Discovery
- ·Manufacturing









Choose an area

· 3Rs

- · Big Data
- Education and training
- Environment







3Rs

• Big Data

¹IMI1 ²IMI2

- Education and training
- Environment

ABIRISK¹ COMPACT¹ DDMoRe¹ EBiSC¹ eTOX¹ EU-AIMS¹ EuroPain¹ IMIDIA¹ iPiE¹ MARCAR¹ MIP-DILI¹ NEWMEDS¹ PharmaCog¹ PREDECT¹ PreDiCT-TB¹ SAFE-T¹ SafeSciMET¹ StemBANCC¹ U-BIOPRED¹ VAC2VAC²







Big Data

• 3Rs

- · Education and training
- Environment

EHR4CR¹ EMIF-AD¹ EMIF-Metabolic¹ eTRIKS¹ Open PHACTS¹ RADAR-CNS² WEB-RADR¹







EMTRAIN¹ Eu2P¹ EUPATI¹ PharmaTrain¹ SafeSciMET¹

Education and training

- · 3Rs
- Big Data
- Environment





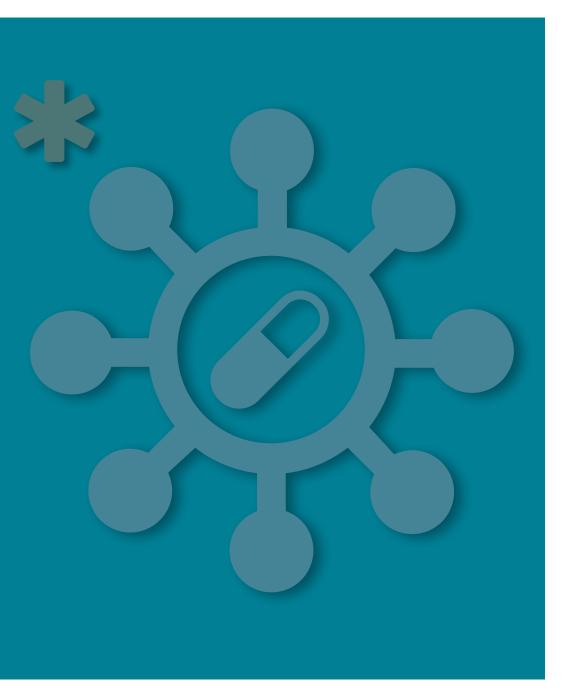


CHEM21¹

iPiE¹

Environment

- 3Rs
- · Big Data
- · Education and training









Choose a therapeutic area



- Brain Diseases and Psychiatry
- · Cancer
- Diabetes
- Geriatric Medicines
- Inflammatory Disorders
- Infectious Diseases
- · Pain
- · Pediatric Medicines
- · Respiratory Diseases





Tackling Diseases

Brain Diseases and Psychiatry

- · Cancer
- · Diabetes
- · Geriatric Medicines
- · Inflammatory Disorders
- \cdot Infectious Diseases
- Pain
- · Pediatric Medicines
- · Respiratory Diseases

¹IMI1 ²IMI2

AETIONOMY¹ EMIF-AD¹ EPAD¹ EU-AIMS¹ NEWMEDS¹ PharmaCog¹ PRISM² RADAR-CNS² StemBANCC¹







Cancer

- \cdot Brain Diseases and Psychiatry
- \cdot Diabetes
- \cdot Geriatric Medicines
- · Inflammatory Disorders
- \cdot Infectious Diseases
- Pain
- · Pediatric Medicines
- · Respiratory Diseases

CANCER-ID¹ MARCAR¹ OncoTrack¹ PREDECT¹ QuIC-ConCePT¹







Diabetes

- \cdot Brain Diseases and Psychiatry
- \cdot Cancer
- \cdot Geriatric Medicines
- \cdot Infectious Diseases
- \cdot Inflammatory Disorders
- Pain
- · Pediatric Medicines
- · Respiratory Diseases

DIRECT¹ EMIF-Metabolic¹ IMIDIA¹ INNODIA² StemBANCC¹

SUMMIT¹





Tackling Diseases



Dry age-related macular degeneration² SPRINTT¹

Geriatric Medicines

- · Brain Diseases and Psychiatry
- \cdot Cancer
- \cdot Diabetes
- \cdot Geriatric Medicines
- \cdot Infectious Diseases
- · Inflammatory Disorders
- Pain
- · Pediatric Medicines





Tackling Diseases

Infectious Diseases

- · Brain Diseases and Psychiatry
- \cdot Cancer
- · Diabetes
- · Geriatric Medicines
- · Inflammatory Disorders
- Pain
- · Pediatric Medicines
- · Respiratory Diseases

¹IMI1 ²IMI2

COMBACTE¹ iABC¹ COMBACTE-CARE¹ Mofina² COMBACTE-MAGNET¹ PreDiCT-TB¹ TRANSLOCATION¹ DRIVE-AB¹ VAC2VAC² EBODAC² VSV-EBOVAC² EbolaMoDRAD² ZAPI¹ EBOMAN² EBOVAC1² EBOVAC2² ENABLE¹ FILODIAG²







AETIONOMY¹ APPROACH¹ BTCure¹ PRECISESADS¹

Inflammatory Disorders

- · Brain Diseases and Psychiatry
- \cdot Cancer
- \cdot Diabetes
- · Geriatric Medicines
- · Infectious Diseases
- · Pain
- · Pediatric Medicines
- · Respiratory Diseases







Pain

- · Brain Diseases and Psychiatry
- \cdot Cancer
- \cdot Diabetes
- \cdot Geriatric Medicines
- · Infectious Diseases
- · Inflammatory Disorders
- \cdot Pediatric Medicines
- · Respiratory Diseases









EU-AIMS¹ INNODIA²

Pediatric Medicines

- · Brain Diseases and Psychiatry
- \cdot Cancer
- \cdot Diabetes
- · Geriatric Medicines
- · Infectious Diseases
- · Inflammatory Disorders
- Pain
- · Respiratory Diseases

efpia European Federation of Pharmaceutical Industries and Associations







iABC¹ PROactive¹ U-BIOPRED¹

Respiratory Diseases

- · Brain Diseases and Psychiatry
- \cdot Cancer
- \cdot Diabetes
- · Geriatric Medicines
- \cdot Infectious Diseases
- · Inflammatory Disorders
- Pain
- · Pediatric Medicines







All projects



ABIRISK¹ ADAPT SMART² ADVANCE¹ **AETIONOMY**¹ **APPROACH¹ BioVacSafe**¹ **B**TCure¹ CANCER-ID¹ CHEM21¹ COMBACTE¹ COMBACTE-CARE¹ COMBACTE-MAGNET¹ COMPACT¹ DDMoRe¹

DIRECT¹ DRIVE-AB¹ Dry agerelated macular degeneration² EBiSC¹ EBODAC² EbolaMoDRAD² EBOMAN² EBOVAC1² EBOVAC2² EHR4CR¹ EMIF-AD¹ EMIF-Metabolic¹ **EMTRAIN**¹

ENABLE¹ EPAD¹ eTOX¹ eTRIKS¹ EU-AIMS¹ Eu2P¹ EUPATI¹ EuroPain¹ European Lead Factory (ELF)¹ FILODIAG² FLUCOP¹ GetReal¹ iABC¹







All projects



IMIDIA¹ INNODIA² iPiE¹ K4DD¹ MARCAR¹ MIP-DILI¹ Mofina² NEWMEDS¹ OncoTrack¹ **Open PHACTS¹ ORBITO**¹ PharmaCog¹ PharmaTrain¹

PRECISESADS¹ PREDECT¹ PreDiCT-TB¹ PRISM² PROactive¹ PROTECT¹ QuIC-ConCePT¹ RADAR-CNS² RAPP-ID¹ SAFE-T¹ SafeSciMET¹ SPRINTT¹ StemBANCC¹

SUMMIT¹ TRANSLOCATION¹ U-BIOPRED¹ ULTRA-DD¹ VAC2VAC² VSV-EBOVAC² WEB-RADR¹ ZAPI¹







ABIRISK IMI1

A growing number of medicines are based on biological molecules such as proteins and monoclonal antibodies. These novel drugs have resulted in new, more effective treatments for a number of serious conditions. Yet sometimes these medicines trigger a response from the patient's immune system, which can decrease the effectiveness of the drug or cause severe side effects. The aim of ABIRISK is to shed new light on the factors behind this immune response. The project, which represents the first concerted effort to solve this problem, will aid in the creation of new, safer biopharmaceuticals, and generate tools to determine how individual patients are likely to respond to them both in clinical trials and after release to the market.

Source: www.abirisk.eu





ADAPT SMART

Due to regulatory, financial and unsustainability challenges, Europe is struggling to bring new medicines to patients in an efficient and timely manner. To face this landscape, the initiative 'Medicines adaptive pathways to patients' (MAPPs) seeks to provide patients with timely access to beneficial medicines.

ADAPT SMART is a coordination and support action that brings together representatives from key European stakeholder groups in order to create a platform where the conditions and feasibility of MAPPs implementation within the EU's regulatory and legal context can be coordinated and discussed openly.

Source: www.adaptsmart.eu





ADVANCE

Vaccines are one of the most effective public health measures out, saving some two to three million lives worldwide every year. However, in Europe, public distrust in immunisation programs is limiting high vaccine uptake, resulting in outbreaks of vaccine-preventable infectious diseases. Bringing together a group of key stakeholders from the healthcare sector in Europe, the ADVANCE project will develop and test methods and guidelines in order to pave the way for a framework capable of rapidly delivering reliable data on the benefits and risks of vaccines that are on the market. This framework should both help regulators and public health authorities make decisions on vaccination strategies, and help maintain public confidence in immunisation as an effective tool to control infectious disease.

Source: www.advance-vaccines.eu





AETIONOMY IMI1

Today, diseases are defined largely on the basis of their symptoms, yet while two patients may share the same diagnosis, the underlying causes of their symptoms may be very different. This means that a treatment that works in one patient may prove ineffective in another. There is now broad recognition that a new approach to disease classification is needed, and that is where the AETIONOMY project comes in. It will pave the way towards a new approach to the classification of neurodegenerative diseases, particularly Alzheimer's and Parkinson's diseases, thereby improving drug development and increasing patients' chances of receiving a treatment that works for them.

Source: www.aetionomy.eu





APPROACH IMI1

Some 10% of men and 18% of women over 60 suffer from osteoarthritis, and a quarter of those affected struggle to carry out ordinary daily activities. However, developing effective treatments for this debilitating condition is extremely challenging. The APPROACH project is creating a platform comprising data on over 10,000 patients and healthy people. The project team will use this data to identify groups of patients with similar profiles who could respond well to specific treatments. This information will ultimately be used to identify patients who could take part in clinical trials of more personalised treatments for osteoarthritis.

Source: www.approachproject.eu





BioVacSafe IMI1

Since their discovery, vaccines have protected millions of people worldwide from a broad range of infectious diseases, making them one of the most effective public health interventions out. New and better vaccines are still urgently needed, yet their introduction is hampered by lengthy and expensive vaccine safety testing procedures. The aim of the BioVacSafe project is to develop cutting-edge tools to speed up and improve the testing and monitoring of vaccine safety. By bringing together Europe's top industrial and academic teams for the first time, the project will ultimately usher in a new generation of safer, more effective vaccines.

Source: www.biovacsafe.eu





BTCure

New developments in our understanding of the pathology of Rheumatoid Arthritis, a chronic disease affecting many patients, show how disease-inducing immune and inflammatory reactions develop from an asymptomatic phase with autoimmune reactions into a phase of non-specific symptoms and then further into the full-blown disease, causing pain, joint destruction and functional deterioration.

The ultimate goal for therapeutic development is to identify the disease-causing molecular events early in the disease and then influence immunity and inflammation so that functional deterioration is halted, immunity is re-regulated and the disease is cured.

Source: www.btcure.eu





CANCER-ID IMI1

Doctors need samples of cancer cells to determine what treatment is most appropriate and to monitor how well it is working. Obtaining these cells usually requires a biopsy, an often invasive procedure. The CANCER-ID project aims to develop new, less invasive ways of capturing cancer cells and genetic material from tumours from blood samples and analysing them for clues to what treatment is needed and how well drugs are working. The project will focus initially on specific types of lung and breast cancer.

Source: www.cancer-id.eu





CHEM21 IMI1

The CHEM21 project plans to generate a range of methods to make the drug development process more environmentally friendly. What's more, as well as being good for the planet, the methods developed by CHEM21 will also help the pharmaceutical industry to reduce costs, resulting in more cost-effective medicines for patients.

Source: www.chem21.eu





COMBACTE

Antimicrobial resistance is a growing problem worldwide. With few new drugs making it to the market, there is an urgent need for innovative medicines to treat resistant infections. The COMBACTE project aims to give antibiotic drug development a much-needed boost by pioneering new ways of designing and implementing efficient clinical trials for novel drugs. COMBACTE forms part of the New Drugs for Bad Bugs initiative, IMI's wider programme to tackle AMR.

Source: www.combacte.com





COMBACTE-CARE IMI1

Infections caused by bacteria known as 'carbapenemresistant enterobacteriaceae' (CRE) are resistant to most available antibiotics and, given the difficulties in treating them, they are considered to be one of the most dangerous drug-resistant bacteria in the world. Worryingly, cases of CRE infections are on the rise in Europe and globally.

The COMBACTE-CARE project aims to shed new light on the best ways to understand and treat CRE infections. It will also run clinical trials of a novel antibiotic combination product designed to tackle a sub-type of CRE infections for which there are limited or no treatment options.

Source: www.combacte.com/About-us/COMBACTE-CARE





COMBACTE-MAGNET IMI1

Antimicrobial resistance is a major global public health challenge and there is a rapid emergence and spread of multidrug resistant bacterial infections. Patients in intensive care units are particularly vulnerable to infections, for example in their lungs and airways. Increasingly, these infections are resistant to a range of antibiotics, leaving doctors with few options to treat their patients.

The COMBACTE-MAGNET project is evaluating a new approach to preventing and treating life-threatening infections caused by Gram-negative bacteria. In addition, it is also setting up a pan-European epidemiological network called 'EPI-Net' that will help to optimise the surveillance of antibiotic resistance and healthcare associated infections in Europe.

Source: www.combacte.com/About-us/COMBACTE-MAGNET





COMPACT IMI1

A group of new medicines, called biopharmaceuticals, are based on biological molecules such as proteins, peptides or nucleic acids. The goal of the COMPACT project is to shed new light on the obstacles that these drugs need to overcome to get to where they are needed in the body. The team will use this information to develop and validate biopharmaceutical formulations to deliver these novel drugs to their targets.

Source: www.compact-research.org





DDMoRe IMI1

Model based-drug development (MBDD) is accepted as a vital approach in understanding patient risk/benefit and attrition. At the core of MBDD lies Modelling and Simulation (M&S), a technology providing the basis for informed, quantitative decision-making.

Source: www.ddmore.eu





DIRECT IMI1

Type 2 diabetes patients are a diverse group; in some, the disease progresses rapidly, while in others it takes a slower course. Similarly, a treatment that works well in one patient may prove less effective in another. This has led researchers to acknowledge that there are actually a number of different subtypes of type 2 diabetes. The goal of the DIRECT project is to identify these subtypes and determine most appropriate treatments for them. The project brings together Europe's leading researchers from academia, healthcare and the pharmaceutical industry.

Source: www.direct-diabetes.org





DRIVE-AB

There is a contradiction at the heart of antibiotic development. On the one hand, we urgently need new antibiotics to treat resistant infections. At the same time, the use of new antibiotics should be restricted, so as to minimise the risk of bacteria developing resistance to them. As a result of this situation, the potential return on investment is much lower than in most other medical fields. DRIVE-AB is developing concrete recommendations for new economic models that would provide industry with an incentive to invest in this area while reconciling this with the need to use new antibiotics wisely.

Source: www.drive-ab.eu





Dry age-related macular degeneration IMI2

Age-related macular degeneration (AMD) is a chronic progressive disease that causes vision-threatening complications such as irreversible 'geographic' atrophy (GA) of the retina.

Currently, there are no effective treatments to address the major drivers of the transition from AMD to GA due to the lack of appropriate clinical endpoints with high sensitivity and specificity. Only recently, for a subset of dry AMD patients with GA, the assessment of progression of GA was accepted as biomarker for disease progression.

By identifying a suite of validated clinical endpoints, this project will facilitate future trial designs in dry AMD, which will eventually provide new treatments to patients and potentially novel therapeutic approaches for larger populations.





EBiSC

Induced pluripotent stem (iPS) cells have the potential to significantly advance drug development and health research, yet collections of stem cells are scattered across the world, their quality cannot always be guaranteed, and accessing them is often difficult. The goal of EBiSC is to establish a European iPS cell bank that will be the 'go-to' resource for the characterisation, storage and distribution of high quality iPS cells. Ultimately, EBiSC will become an independent organisation, distributing high quality iPS cells on a not-for-profit basis to scientists worldwide.

Source: www.ebisc.org





EBODAC IMI2

The EBODAC project is developing a communication strategy and tools to promote the acceptance and uptake of new Ebola vaccines. One of the project's most important products will be a platform, based on mobile technology, dedicated to Ebola vaccines. As well as providing local communities with information on this area, the platform will send reminders to people to get their second 'booster' dose and facilitate the tracking of vaccination coverage. EBODAC is also setting up local training programmes to make sure the communication strategy, and its tools, will be ready for deployment in the local setting.

Source: www.ebovac.org/ebodac





EbolaMoDRAD IMI2

The EbolaMoDRAD project aims to develop and validate in the field a rapid diagnostic tool that will be both simple and safe to use in low resource settings by people who may not have specialist training. At the same time, the project will implement a large-scale capacity building programme in West Africa with a strong focus on diagnostics, biosafety, and outbreak management. Finally, it will ensure its results are communicated widely.

Source: www.ebolamodrad.eu





EBOMAN IMI2

The focus of the EBOMAN project is on accelerating the development and manufacturing of a 'prime-boost' Ebola vaccine regimen. In the short term, this will ensure the delivery of sufficient quantities of the vaccine regimen to support the two EBOVAC projects to perform the clinical trials. In parallel, this project will create additional vaccine production capacity to allow for the rapid preparation of large quantities of vaccines.

Source: www.ebovac.org/eboman





EBOVAC1

Between them, the EBOVAC 1 and 2 projects are assessing, through clinical trials in Europe and Africa, the safety and tolerability of the 'prime-boost' Ebola vaccine regimen, in which patients are first given a dose to prime the immune system, and then a boost dose which is intended to enhance the immune response over time. As such, it contributes to broader efforts to ensure that future outbreaks of Ebola can be tackled speedily.

Source: www.ebovac.org





EBOVAC2

Between them, the EBOVAC 1 and 2 projects are assessing, through clinical trials in Europe and Africa, the safety and tolerability of the 'prime-boost' Ebola vaccine regimen, in which patients are first given a dose to prime the immune system, and then a boost dose which is intended to enhance the immune response over time. As such, it contributes to broader efforts to ensure that future outbreaks of Ebola can be tackled speedily.

Source: www.ebovac2.com





EHR4CR

Current medical needs, the growth of targeted therapies and personalized medicines, and escalating R&D costs result in significant cost pressures on healthcare systems and the pharmaceutical industry. In addition, clinical research is also growing in complexity, labour intensity and cost.

There is a growing realization that the development and integration of Electronic Health Record systems (EHRs) for medical research can:

- Enable substantial efficiency gains
- Make Europe more attractive for R&D investment
- Provide patients better access to innovative medicines and improved health outcomes

Source: www.ehr4cr.eu





EMIF-AD

With multiple clinical trials in dementia failing recently, the study of people with Alzheimer's disease (AD) who have not reached the stage of dementia yet, becomes essential for future treatment studies. EMIF-AD has the objective of driving the creation of a new pan-European platform for large-scale research on biomarkers and risk factors for neurodegenerative disorders.

By doing so, EMIF-AD aims to develop new treatment targets, multimodality diagnostic tools and qualification level biomarker datasets, which will help to improve clinical diagnosis and prognosis as well as to support sample selection and stratification in future studies.

Source: www.emif.eu/about/emif-ad





EMIF-Metabolic IMI1

Obesity is closely associated with an increased risk of metabolic complications such as type 2 diabetes, coronary heart disease and cancers. However, the association between obesity and any of these complications is complex, with high inter-individual variability in susceptibility to specific metabolic complications of obesity. EMIF-Metabolic will focus on two innovative pathways through which individuals who are obese may vary in their risk of the complications of obesity.

The discovery of predictors of the metabolic complications of adult and paediatric obesity will lead to innovative diagnostic tests, pave the way to novel therapeutics targeted to high-risk individuals, and provide the infrastructure to select individuals for such targeted interventions.

Source: www.emif.eu/about/emif-metabolic





EMTRAIN IMI1

The European Medicines Research Training Network (EMTRAIN) will establish a sustainable, pan-European platform for education and training (E&T) covering the whole life-cycle of medicines research, from basic science through clinical development to pharmacovigilance. This will be achieved by integrating the strengths and competencies of the ESFRI BMS Infrastructures, the EFPIA member companies, the current and future IMI E&T programmes as well as other scientific projects.

Source: www.emtrain.eu





ENABLE

Antimicrobial resistance is a major public health threat. Infections caused by resistant bacteria are increasing and causing Europe to face significant costs both in terms of lives and public health expenditure. Despite the strong need for new antimicrobials, very few new, effective antibiotics have been brought to the market in the last decades. The ENABLE project, within IMI's New Drugs for Bad Bugs programme, is working to advance the development of potential antibiotics against Gram-negative bacteria, such as Escherichia coli. The ultimate goal of the project is to develop attractive antimicrobial candidates for testing in the clinic setting, bringing the possibility of new antibiotics to treat Gram-negative infections one step closer to patients.

Source: www.nd4bb-enable.eu





EPAD IMI1

There is an urgent need for new treatments for Alzheimer's disease. The number of people affected worldwide is expected to reach over 100 million by 2050, yet despite intensive efforts over many years, there is still no cure for Alzheimer's and little in the way of treatments. Today, research increasingly focuses on ways to prevent the onset of Alzheimer's in the first place. The EPAD project is pioneering a novel, more flexible approach to clinical trials of drugs designed to prevent Alzheimer's dementia. Using an 'adaptive' trial design should deliver better results faster and at a lower cost.

Source: www.ep-ad.org





eTOX

The eTOX project partners will develop innovative strategies and novel software tools to better predict the safety and the side-effects of new candidate medicines for patients.

By using the complex relationships between the structure of a substance, its metabolism and disposition, and its toxic effects in the body, the eTOX scientists will be able to produce reliable predictions of the side-effects in the initial phases of drug development. As a result of this technique, the failure rate in later phases will be lower, the number of animal tests needed will be significantly reduced and the development of new drugs will be accelerated.

Source: www.e-tox.net





eTRIKS

Many IMI projects involve the integration of data from different sources, and until now every project has had to devise its own solutions to the problems raised by data sharing. Enter eTRIKS, which aims to create and run an open, sustainable research informatics and analytics platform for use by IMI (and other) projects with knowledge of management needs. In addition, the project partners will provide associated support, expertise and services to ensure users gain the maximum benefit from the platform.

Source: www.etriks.org





EU-AIMS

Around 1% of children are diagnosed with autism spectrum disorders (ASD), yet there are currently no drugs designed specifically to treat their main symptoms. Working to change this is the EU-AIMS project. The goal of EU-AIMS is to generate tools that will enhance our understanding of ASD, and ultimately pave the way for the development of new, safe and effective treatments for use in both children and adults. As well as dramatically improving quality of life, good treatments would help to cut the social and economic costs of ASD.

Source: www.eu-aims.eu





Eu2P

Eu2P aims to improve the understanding of the risks and benefits of medicines in large groups of people, by developing a European training and education platform in pharmacovigilance and pharmacoepidemiology. Pharmacovigilance involves collecting and analysing information from patients and health care providers on potential adverse effects of medications that are already on the market. In pharmacoepidemiology, scientists study, predict and compare the risks and benefits of commercial or experimental medicines in populations.

Source: www.eu2p.org





EUPATI IMI1

Medicines research and development (R&D) is an increasingly complex process that remains a mystery for the majority of patients and the general public. Lifting the lid on the medical R&D process is the EUPATI project. EUPATI is a patient-led initiative that aims to develop the first European Patients' Academy on Therapeutic Innovation, with training courses, educational material and an online public library that will empower patients to engage more effectively in the development and approval of new treatments and become true partners in pharmaceutical R&D.

Source: www.patientsacademy.eu





EuroPain IMI1

The EuroPain project aims to improve the treatment of patients with chronic pain. Three renowned academic pain consortia, from Germany, Denmark and the UK, will join forces with a Spanish SME and with Europe's most active pharmaceutical companies working on pain. The scientists will search for changes in the nervous system that contribute to pain, in order to fill the gaps in the current knowledge of chronic pain. They will elucidate the mechanisms of pain, using novel experimental models, human volunteers and clinical data of pain patients. They will search objective methods to measure pain in patients and they will examine the mechanisms that are activated by placebo pain medication.

Source: www.imieuropain.org





European Lead Factory (ELF)

The European Lead Factory is a pan-European platform for drug discovery supported by the Innovative Medicines Initiative (IMI) that is set to give a major boost to drug discovery in Europe. Comprising a collection of half a million compounds (derived from new public and existing private company collections) and a screening centre, the European Lead Factory will offer researchers in academia, small and medium-sized enterprises (SMEs) and patient organisations an unprecedented opportunity to advance medical research and develop new medicines.

Source: www.europeanleadfactory.eu





FILODIAG IMI2

The FILODIAG project aims to deliver an ultra-fast, accurate diagnostic instrument that will test for Ebola in under 15 minutes. Such a system could be used in both healthcare settings and at critical infrastructures like airports. Current tests for Ebola virus take a long time because samples must be heated and then cooled in each of the many processing cycles. This project will replace the heating/cooling steps with a technology based on laser-heated nanoparticles.

Source: www.filodiag.eu





FLUCOP

Every year, pharmaceutical companies develop vaccines designed specifically to combat the strains of flu that are most likely to be in circulation the following winter. Vaccines are also developed in response to emerging pandemics. However, accurately predicting how much protection a new vaccine would actually offer against emerging virus types is far from easy. The FLUCOP project's goal is to deliver a standardised toolbox to evaluate the ability of new vaccines to stimulate the immune system and compare results from different laboratories, so as to pave the way for future research into which tests will be predictive of vaccine efficacy. Ultimately, the toolbox will improve vaccines research and development globally.

Source: www.flucop.eu





GetReal

Incorporating data from 'real life' clinical settings into drug development and associated decision-making represents a serious challenge for pharmaceutical companies, regulators, and health authorities alike. By bringing together all key stakeholder groups (namely industry, academia, regulatory agencies, reimbursement agencies, healthcare budget holders, and patient groups) to share their insights and know-how, GetReal will develop new approaches for incorporating real life data into drug development, and pave the way for a greater consensus on this issue.

Source: www.imi-getreal.eu





iABC IMI1

Respiratory infections, frequently caused by drug-resistant bacteria, are the main cause of disease and death in people with cystic fibrosis (CF) and bronchiectasis (BE). Thanks to inhaled antibiotics, patients now live longer than ever before and enjoy a better quality of life. However, infections are increasingly becoming resistant to the few drugs available, putting patients' lives at risk. The iABC project is advancing the development of two inhaled antibiotics for patients with CF and BE. It is also working to identify ways of improving clinical trials of treatments for these serious diseases.

Source: www.imi.europa.eu/content/iabc





IMIDIA IMI1

A complete or relative decrease in insulin secretion by pancreatic beta-cells underlies the development of, respectively, type 1 and type 2 diabetes. These diseases impose a huge burden on welfare systems, both in Europe and in other developed and developing countries. So far, symptomatic therapeutic options for treatment of diabetes are available, but none to cure or prevent this pandemic disease. This is largely due to our limited knowledge of beta-cell biology in health and disease. Although a considerable amount of knowledge has been gained on the function of beta-cells from animal models, knowledge of human beta-cell function, survival, and of the pathophysiological mechanisms that lead to their demise remains limited.

Source: www.imidia.org





INNODIA IMI2

Type 1 diabetes affects 17 million people globally and there is no cure; instead, patients must inject themselves with insulin daily and continually check their blood sugar levels to control their condition. The goal of the INNODIA project is to advance our understanding of type 1 diabetes and address the lack of tools and technologies that will allow clinicians to predict, evaluate and prevent the onset and progression of type 1 diabetes. For patients, this would mean the ability to predict the rate at which their disease will progress. The knowledge and tools generated by the project will help researchers to optimise the design of clinical trials of treatments for preventing and curing this debilitating disease. The project has set up a patient advisory committee to ensure the work is in line with patients' needs.

Source: www.innodia.eu





iPiE IMI1

Minute amounts of the active ingredients in medicines get into the environment in a variety of ways. However, we still know little about what happens to medicines after released into the environment and what effect they have on wildlife. Although measures are in place to limit the environmental impact of new medicines, more research is needed in this important area. The iPiE project's goal is to develop a framework that will provide methodologies to prioritise new and existing medicinal compounds for a comprehensive environmental risk assessment. As such, it will support and inform regulatory activities designed to assess and reduce the environmental impact of medicines.

Source: www.i-pie.org





K4DD

Drugs work by binding with molecules in the body and to either block or alter the action of the target molecule. The goal of the K4DD project is to improve our understanding of how potential drugs bind with their target, and develop methods and tools to allow researchers to study drug-target interactions with greater ease. These tools would help researchers to determine whether a drug candidate is likely to be safe and effective much earlier in the drug development process.

Source: www.k4dd.eu





MARCAR IMI1

The efficiency of drug development could be increased if undesired effects of candidate drugs are detected in an earlier phase of development. Therefore, the researchers in the MARCAR project will search and test biological clues – biomarkers – that can be used for the early detection of drug-induced tumour formation. Biomarkers that help to predict tumour growth more accurately in a very early stage, will reduce the need for animal testing, speed up drug development and increase drug safety for patients.

Source: www.imi-marcar.eu





MIP-DILI IMI1

Many medicines are harmful to the liver, and drug-induced liver injury (DILI) now ranks as the leading cause of liver failure and transplantation in western countries. However, predicting which drugs will prove toxic to the liver is extremely difficult, and often problems are not detected until a drug is already on the market. For the first time, the IMI project MIP-DILI brings together Europe's top industrial and academic experts in the field. Together, they will develop new tests that will help researchers detect potential liver toxicity issues much earlier in development, saving many patients from the trauma of liver failure.

Source: www.mip-dili.eu





Mofina IMI2

The Mofina project is developing a new diagnostic test that will deliver results in under 45 minutes on whether the patient has Ebola or a related disease such as Marburg virus. Crucially, the device is designed to work well in sites where high-end laboratory infrastructures are simply not available, while also protecting users from infection.

Source: www.imi.europa.eu/content/mofina





NEWMEDS IMI1

Despite remarkable advances in medical technologies and nearly 15,000 articles on schizophrenia and depression every year, there have been few truly innovative new medicines which have made it to the patients. There has been a tremendous explosion of new knowledge: dozens of genetic variations linked to the disease, hundreds of new molecules and mechanisms in the body identified, numerous scanning techniques distinguishing patients from healthy people, but it has been hard to translate these findings into novel therapies for patients.

Source: www.newmeds-europe.com





OncoTrack IMI1

The OncoTrack project will focus on identifying biological markers that will help our understanding of the variable composition of tumors, as well as the relationship between biological heterogeneity and tumor variation in response to treatment. In particular, biomarkers for cancer of the colon will be analysed through the development and application of research techniques with unprecedented high sensitivity levels.

Source: www.oncotrack.eu





Open PHACTS IMI1

Drug discovery is data intense; as such all major pharmaceutical companies maintain extensive in-house instances of public data. Analysis and hypothesis generation for drug-discovery projects requires assembly, overlay and comparison of data from many sources as well as development of shared identifiers and common semantics.

Expression profiles need to be overlaid with gene or pathway identifiers and reports on compound pharmacology. Alignment and integration of internal and public data, and information sources, requires a significant effort and the process is repeated across companies, institutes and academic laboratories. This represents significant waste and increases opportunity cost.

Source: www.openphacts.org





ORBITO IMI1

Most drugs are taken orally, as tablets or capsules for example. However, designing these pharmaceutical products in such a way that the active ingredient is absorbed at an appropriate rate and extent by the gut is far from easy. The ORBITO project aims to enhance our understanding of how orallyadministered drugs are taken up from the gastrointestinal tract into the body, and apply this knowledge to create new laboratory tests and computer models that will better predict the performance of these drugs in patients.

Source: www.orbitoproject.eu





PharmaCog IMI1

Currently, approved drugs for patients with Alzheimer's disease only treat symptoms and their effect is limited or absent in many patients. No drugs have been approved yet that can actually slow the progression of the disease. Trials with candidate drugs take years and cost tens of millions of euros, as the beneficial effect in patients may only become clearly apparent after long treatment due to the insensitivity of the tools available to measure the effect of a drug on the progression of the disease.

Source: www.pharmacog.eu





PharmaTrain IMI1

The main objective of the PharmaTrain project is to build and implement a new modular Master level programme for advanced studies in Pharmaceutical Medicine and Drug Development Sciences. The programme is based on the Bologna credit and title system and builds on the new PharmaTrain Syllabus 2010 of the European Federation of Courses in Pharmaceutical Medicine (EFCPM).

Source: www.pharmatrain.eu





PRECISESADS

Inflammatory autoimmune diseases such as rheumatoid arthritis and lupus affect 1–3% of the population, and while treatments exist, these are costly and have a number of serious side effects. There is growing evidence that many of these conditions may be incorrectly classified. The PRECISESADS project will study 2,500 people with various autoimmune diseases, gathering data on the molecular causes of their disease as well as their clinical symptoms. Using this information, they will pave the way for a new classification of these diseases, something that will allow doctors to offer patients more personalised treatments at an earlier stage of their disease.

Source: www.precisesads.eu





PREDECT IMI1

The PREDECT project will permit the emergence of faithful models for target validation and beyond. Traditional preclinical discovery methods, particularly for target validation, poorly predict drug efficacy, causing a high attrition rate in pharmaceutical research and development.

Source: www.predect.eu





PreDiCT-TB IMI1

Tuberculosis (TB) infects over 9 million people worldwide every year and kills 1.7 million. Treatment takes several months, and many patients struggle to take their antibiotics properly, fuelling the rise of drug-resistant strains of the disease. However, putting together a new, shorter treatment regimen could take a quarter of a century using today's methods. The IMI-funded PreDiCT-TB project aims to speed up the search for new, more effective combinations of treatments to tackle the deadly disease. PreDiCT-TB is one of the world's only initiatives focused on tackling pre-clinical research barriers to the discovery and development of new TB drug combinations.

Source: www.predict-tb.eu





PRISM IMI2

Social withdrawal is a common early symptom of many neurological disorders, including schizophrenia, Alzheimer's disease, and major depressive disorder. However, the underlying, biological causes of this symptom are still poorly understood and may differ from one disease to another. The PRISM project will carry out a range of tests, including blood tests, brain scans, and measures of behaviour, on patients with these all too common diseases in a bid to determine which biological parameters correlate with specific clinical symptoms, like social withdrawal. The hope is that the project's findings will shed new light on the causes of mental illness and their symptoms and facilitate the development of much-needed new treatments.

Source: www.imi.europa.eu/content/prism





PROactive IMI1

The aim of PROactive is to develop new tools that will enable patients, their doctors and clinical researchers to accurately assess the improvement or deterioration of Chronic Obstructive Pulmonary Disease (COPD). COPD is a treatable and preventable disease of the lungs which affects an increasing number of Europeans. Patients usually experience a progressive decline in their condition, they may get easily short of breath, experience leg fatigue and are often forced to reduce their physical activity and their normal way of life.

Source: www.proactivecopd.com





PROTECT IMI1

The PROTECT project will enhance the monitoring of the safety of medicinal products. It will also contribute to better evaluate and communicate their benefit-risk profile throughout their lifecycle. To this end, innovative tools and methodological standards will be developed. The European Medicines Agency coordinates PROTECT and manages a Consortium of 29 public and private participants.

Source: www.imi-protect.eu





OulC-ConCePT

The QuIC-ConCePT project aims to deliver a significant contribution to progress in standardization and qualification of Imaging Biomarkers (IBs) for use in oncology drug development. The objective is to provide tools to drug developers to reliably demonstrate the modulation of key pathologic processes in tumours in patients in realistic trials. Looking further into the future, therapies for, and biomarkers of, the processes of invasion and metastasis will be of increasing importance, because in most cases it is metastasis, not the primary tumour, which kills the patient.

Source: www.quic-concept.eu





RADAR-CNS IMI2

Epilepsy, depression, and multiple sclerosis affect 400 million people worldwide, with symptoms and causes that can be severely detrimental to patients' quality of life and life expectancy. However, patients often experience periods where their symptoms are manageable, followed by periods of deterioration and acute illness.

The RADAR-CNS project aims to develop new ways of monitoring these conditions with continuous remote assessment using smartphones and wearable devices, which will provide a complete picture of a patient's condition with a level of detail which has previously been unachievable. Moreover, it could potentially allow treatment to begin before a patient's health deteriorates, preventing the patients from relapsing or becoming more ill before they seek treatment.

Source: www.radar-cns.org





RAPP-ID IMI1

Excellent care for people with suspected infections involves rapid diagnosis and treatment. For instance, administering the correct antibiotic as soon as possible to patients with blood infections, dramatically improves their chances of survival. Equally so, using antibiotics when they do not benefit patients exposes them unnecessarily to side effects and potential antibiotic resistance. In this modern age, we still do not have the technology available that can quickly diagnose what kind of infection and what treatment is needed. Even the best of the currently available diagnostic methods are too slow to help clinicians.

Source: www.rapp-id.eu





SAFE-T

One of the key challenges in drug development is improvement of patient safety: many drug side effects are not adequately predictable and often detected too late, when the risk for serious outcome is high. The scientists of the SAFE-T project are developing improved tools for prediction, detection, and monitoring of druginduced injuries to the kidney, the liver, and the vascular system, using markers in patients' blood and/or urine.

Source: www.imi-safe-t.eu





SafeSciMET

SafeSciMET is a new and unique pan-European network, which will develop and establish a comprehensive modular education and training programme in safety sciences for medicines. The network brings together eighteen top institutes for drug safety education and research and fifteen pharmaceutical industry leaders. The SafeSciMET courses are open to all scientists from industry, academia and regulatory agencies and will encompass the safety, ethical, regulatory and societal aspects of drug discovery and development.

Source: www.safescimet.eu





SPRINTT IMI1

Frailty has a dramatic impact on the quality of life of many elderly people; the frail are at greater risk of falls and disability, and are more likely to be hospitalised. But what is frailty, and can it be prevented? The ultimate aim of the project SPRINTT is to improve elderly people's quality of life by paving the way towards a treatment for frailty. The project will do this by identifying the specific characteristics of frailty and testing whether it can be prevented by a treatment programme that combines exercise, dietary advice, and the use of modern technologies.

Source: www.mysprintt.eu





StemBANCC

The aim of the StemBANCC project is to generate and characterise 1,500 high quality human induced pluripotent stem (iPS) cell lines that can be used by researchers to study a range of diseases, including diabetes and dementia, and test for drug efficacy and safety. The cell lines will help to improve and speed up the drug development process, and ensure that patients benefit from more effective and safer drugs.

Source: www.stembancc.org





SUMMIT IMI 1

There are an estimated 250 million people worldwide suffering from diabetes, and many of them develop devastating chronic complications including coronary heart disease, stroke and peripheral vascular disease, as well as microvascular disorders, leading to damage of kidneys and eyes. These complications impose an immense burden on the quality of life of the patients and account for more than ten percent of the health care costs in Europe.

Source: www.imi-summit.eu





TRANSLOCATION

As part of the IMI antimicrobial resistance programme New Drugs for Bad Bugs, TRANSLOCATION aims to increase the overall understanding of how to get antibiotics into multi-resistant Gram-negative bacteria such as Escherichia coli and Klebsiella pneumoniae, and how to stop the bacteria from ejecting the drug. In sharing the knowledge and data discovered, TRANSLOCATION will develop guidelines for designing and developing new drugs to tackle antibiotic resistance and create an information centre for pre-existing and on-going antibacterial research data which will be used to establish best practices for future antibacterial drug discovery efforts.

Source: www.imi.europa.eu/content/translocation





U-BIOPRED IMI1

The U-BIOPRED project aims to speed up the development of better treatments for patients with severe asthma. Several knowledge gaps today make it hard to predict in the early stages of drug development how well a new experimental medicine will work in patients. One of the major difficulties is the finding that there are many different forms of severe asthma, caused by different mechanisms of disease. Patients with different types of asthma may react differently to new or existing treatments.

Source: www.ubiopred.eu





ULTRA-DD

The ULTRA-DD project's goal is to deliver new tools and resources to speed up the development of truly innovative medicines, especially in the areas of autoimmune and inflammatory diseases, where new treatments are urgently needed. Through the Structural Genomics Consortium, ULTRA-DD has strong ties with similar initiatives elsewhere in the world, and this, coupled with the project's strong open access policy, will ensure that the tools, resources, and knowledge generated by the project will benefit the entire scientific community and hopefully result in new drug discovery programmes.

Source: www.ultra-dd.org





VAC2VAC IMI2

Compulsory testing of vaccines before being marketed is still relying largely upon in vivo methods and many of these are known to be slow, expensive, relatively imprecise and not always sensitive enough to demonstrate product consistency. In addition, some of the tests may be painful and distressing to the large numbers of animals required. An alternative solution would have significant scientific, economic and ethical benefits.

The VAC2VAC project aims at the characterisation of structural and functional criteria of a batch by generating a "fingerprint" of the physico-chemical and immunochemical properties. As a result, VAC2VAC will contribute to the improvement of the access of medicines, by reducing time and cost and improving R&D processes.





VSV-EBOVAC IMI2

VSV-EBOVAC builds on existing work to advance the development of the Ebola vaccine candidate VSV-ZEBOV ('vesicular stomatitis virus-vectored Zaire Ebola vaccine'). Clinical trials are underway in Europe and Africa, and the VSV-EBOVAC project is using cutting-edge technologies to carry out in-depth analyses of samples taken from clinical trial participants before and after vaccination. This allows them to gather vital information on both the strength of the immune responses triggered by the vaccine and its safety.

Source: www.vsv-ebovac.eu





WEB-RADR

WEB-RADR researchers are working together to detect new drug side effects by mining publicly available web and social media content. Thanks to the development a mobile application where patients will be able to directly report potential medicine side effects and also receive reliable information on their drugs, medicine manufacturers and regulators will be able to intervene earlier in case of adverse drug reactions, and thus reduce potential harm to patients.

Source: www.web-radr.eu





ZAPI IMI1

Many infectious diseases, including influenza and Ebola, can be transmitted to humans from animals (and vice-versa). Known as zoonoses, these diseases represent a serious threat to both human and animal health. ZAPI brings together experts in human and animal health to create new platforms and technologies that will facilitate a fast, coordinated response to new infectious diseases as soon as they emerge.

Source: www.zapi-imi.eu



