



The EU Framework Programme for Research and Innovation

HORIZON 2020

**EU research policy –
contribution to pain research**



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*Research and
Innovation*

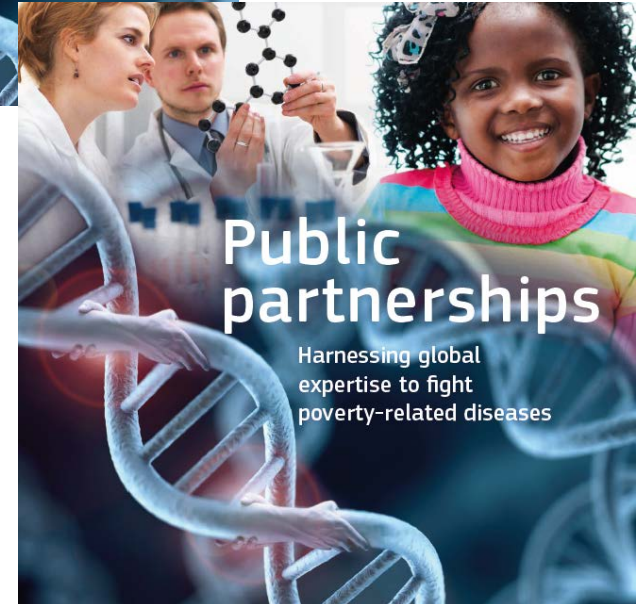
EU Health Research: Aims



- Translate science to benefit citizens
- Test and demonstrate new healthcare models, approaches and tools
- Promote healthy and active ageing
- Improve health outcomes, reduce inequalities
- Support a competitive health sector
- Provide evidence-base for effective health policies development



EU Health Research: Tools





In policy design

- Work programmes based on wide consultations:
 - Advisory Group: representative of European Patient Associations
 - workshops: participation patients
- Horizon 2020 topics are patient-centred
- Many events are triggered by patient organisations



In projects

- Partners
- Patient recruitment
- Through ethics board, safety monitoring board, and patient input platform
- Offer patients' perspective on recruitment, study design, project communication
- Translate results in lay language, modify guidelines to better fit patients' needs, contribute to dissemination activities...

Pain research challenges



- **20% of adults** are estimated to suffer from pain globally
- **Low back pain number-one cause of years lost to disability** worldwide*
- **Migraine affects 15% of all European citizens**
- **Affects all populations**, unevenly distributed
- **Complex aetiology**: multidisciplinary approaches needed
- **Comorbidity** with chronic non-communicable diseases

2010 Global Burden of Disease Study

Pain research challenges



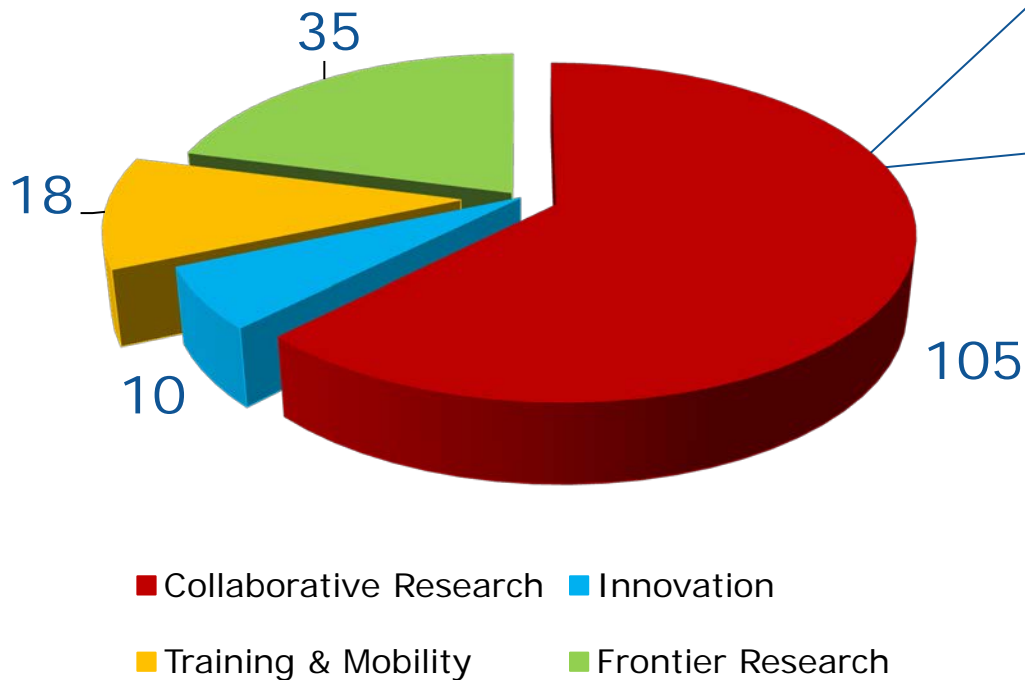
How pain is generated and can this process be prevented, halted, modulated, blocked, reversed?

How chronification of pain begins and progresses?

Research on pain is needed to decipher **underlying mechanisms**, develop effective therapies, meaningful diagnostics and comprehensive management approaches

- Identify biomarkers, brain circuitries, and other neurobiological mechanisms for the triggering and chronification of pain
- Establish faster & reliable diagnostic tool
- Determine high risk patients
- Identify potential drug targets
- Predict treatment response enabling improved stratified care

EU pain research – what's being funded FP7 & HORIZON 2020



Translational research

- acute pain
- chronic pain
- biomarkers
- imaging
- models
- technology
- prevention
- early detection
- clinical trials

€ 163 million (2007-2017/December)



- **EUROHEADPAIN** - Mechanisms and Treatment of Migraine and its Chronification
- **ncRNAPain** - Non-coding RNAs in neurogenic and neuropathic pain mechanisms and their application for risk assessment, patient stratification and personalised pain medicine
- **COMOESTAS** - COntinuous MOnitoring of Medication Overuse Headache in Europe and Latin America: development and STandardization of an Alert and decision support System
- **UNDERNEATH MIGRAINE** - Underneath the attack: cortical network function in migraine

H2020 projects



- **NGN-PET** - Modelling Neuron-Glia Networks into a drug discovery platform for Pain Efficacious Treatments
- **PAINSTRAT** - Novel neurophysiological techniques to quantify pain and stratify patients
- **RELIEF** - Recovering Life Wellbeing Through Pain Self-management Techniques Involving Icts
- **PainCells** - Decomposition of pain into cell types
- **PainDynamics** - Research on the dynamics of attention bias for pain in daily life.

Risk factors and determinants for neuropathic pain



DOLORisk (H2020 project)



- ✓ **Comprehensive approach** covering basic research on molecular, patient and population level
- ✓ Providing a **platform** to improve **diagnosis** & patients stratification according to **risk profile**
- ✓ Employing **preventive strategies**
- ✓ Developing **novel therapeutics**



Controlled Pain Modulation Protocol

A screenshot of a computer interface for a Controlled Pain Modulation Protocol. It shows a graph on a monitor, a table with columns for Stim temp (c°) and NPS, and a pink box indicating a Base line: 32 (°c).

	Stim temp (c°)	NPS
1	45	50
2	44	40
3	46	75

Base line: 32 (°c)

Search for "Pain50" (dominant hand)

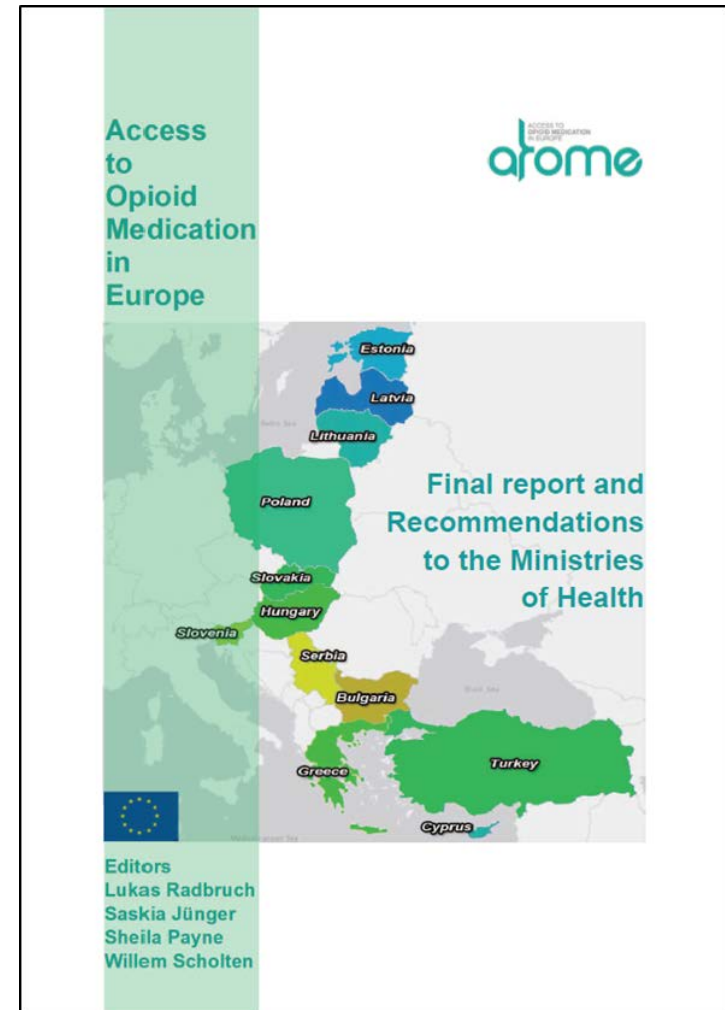
<http://dolorisk.eu>

Underpinning EU Drug Strategy (2012-2020)



ATOME (FP7 project) – access to opioid medications in Europe

- Substantial increase of controlled medicines consumption in developed countries
- EU Drug Strategy (2012-2020) aimed at controlling access to illicit drugs while ensuring access to prescribed controlled medicines (e.g. opioids)
- Evidence base for EU Drug Strategy (2012-2020) aimed at controlling access to illicit drugs while ensuring access to prescribed controlled medicines (e.g. opioids)
- ATOME analysing factors responsible for inappropriate use of/access to opioids and developing policy recommendations to Health Authorities
- WHO guidelines 'Ensuring Balance in National policies on controlled substances" based on ATOME results



Accelerating the delivery of therapies



innovative medicines initiative



Developing the next generation of vaccines, medicines and treatments

Euro pain

The world's largest public private partnership in health research

IMI – € 2 billion

IMI 2 - € 3.3 billion



- **Low Back Pain** in IMI2's Strategic Research Agenda (2014-2020)
- **EUROPAIN**: increase understanding of chronic pain mechanisms; overall contribution € 22.5 million
- IMI2 7 call - **Pathological neuron-glia interactions in neuropathic pain** (€1,5M)

Our current policy activities



Policy activities:

- **Midterm review of the Digital Single Market**
(Communication includes digital transformation of health & care)
- **Personalised Medicine (Staff working document)**
- **Health Technology Assessment in Europe**
- **European Open Science Cloud**

EC work programme 2018-2020

