

ERANET Neuron MEETING

**‘Society, Health and Politics and the case for
Prevention’**

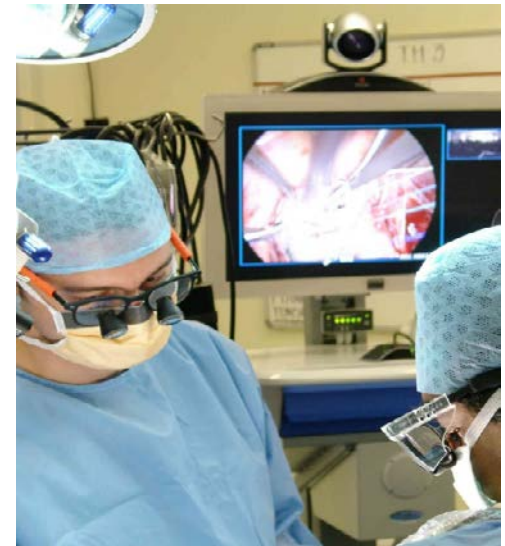
Berlin

12th January, 2016

Dr Mary Baker MBE, BA, Hon DSc

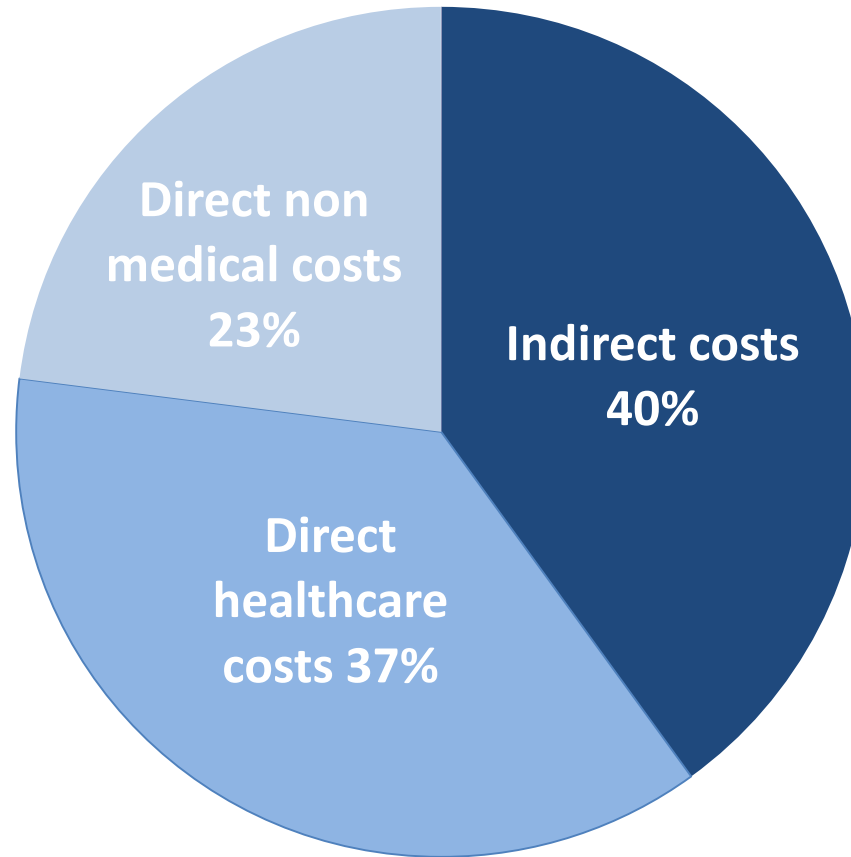
In Europe 2010:

- **€798 billion across 30 countries and 19 groups of disorders**
- **Has increased from €386 billion in 2004**



Distribution of costs

Total disorders of the brain



European Neuropsychopharmacology (2011) 21, 718-779

The world is living longer



A baby girl born in Japan has a 50/50 chance of living 100 years



Global ageing in the 21st century


‘The world stands on the threshold of a social transformation - even a revolution - with few parallels in humanity's past....

Perhaps two-thirds of all people who have ever reached the age of 65 are alive today’



Peter G. Peterson

The changing role of women



**In the 1920's, a couple in their 80's
had 44 female relatives -
*14 of these did not work outside
the home environment***

**In the year 2000, a couple in their
mid 70's had 13 female relatives -
*3 of these did not work outside
the home environment***

Fewer to care for more: a declining dependency ratio

Dependency ratio

	1960	1990	2009/10
Australia	6.4	5.2	4.4
Canada	6.8	5.4	4.5
France	4.8	4.1	3.5
Germany	5.2	4.2	3.0
Italy	6.1	4.0	3.0
Spain	6.9	4.3	3.7
UK	5.0	3.7	3.6
Poland	9.4	5.7	4.9
Average	6.3	4.6	3.8

Polypharmacy and co-morbidity



Provision of culturally relevant care



The challenge of migration

Time with the doctor



.....12 minutes

Access to medication



NOT AVAILABLE



A very uneven playing field

Counterfeit medicines (CMs)

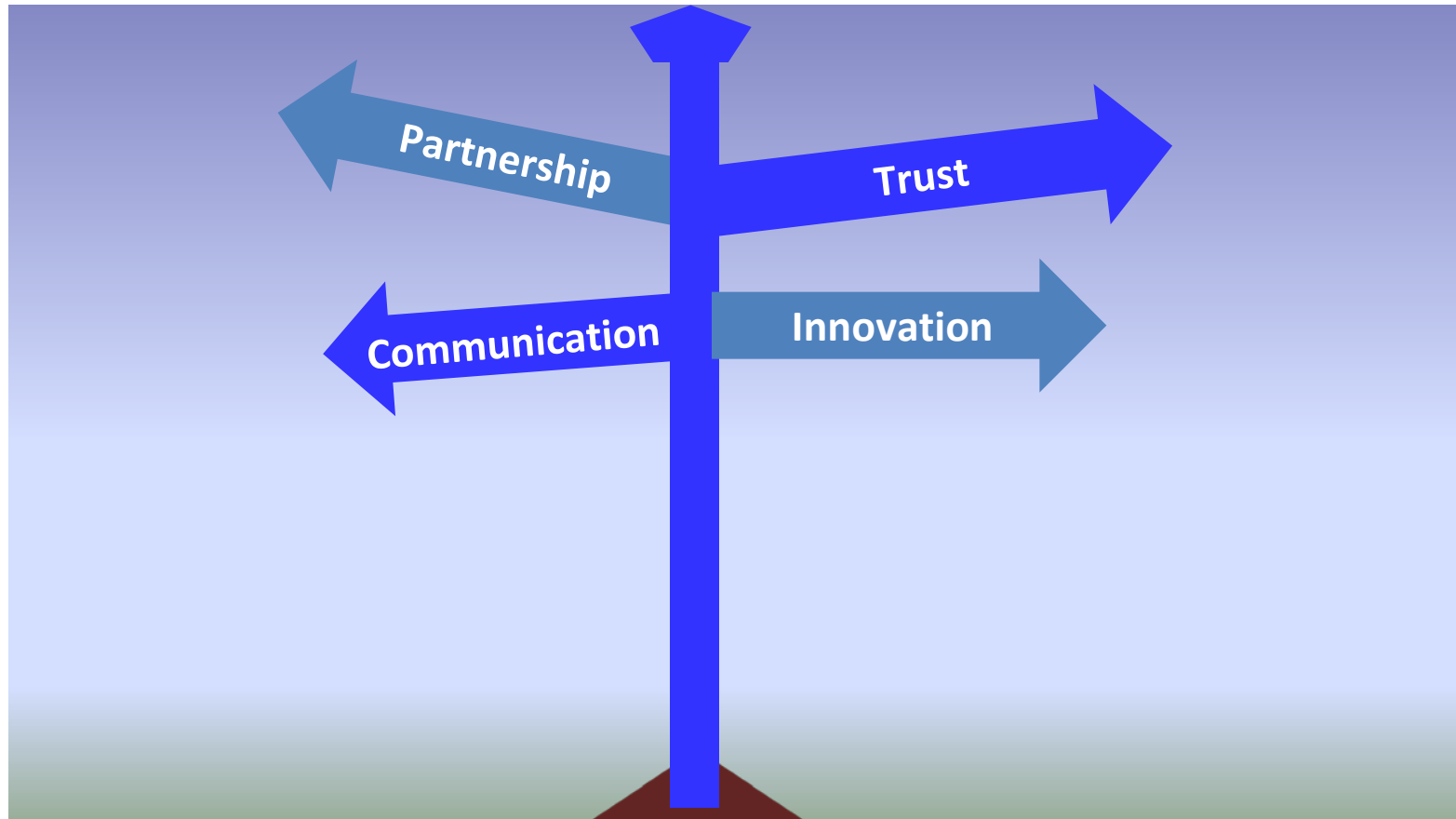


Profit before patients!



- **2011: in EU CMs risen to over 27million**
- **WHO estimate CMs sales in developed countries is 1% and 10% in developing countries**
- **GMP Colombian style; ingredients include:**
 - **Boric acid**
 - **Lead-based road paint**
 - **Shoe polish**
 - **Brick dust**

Way forward



Europe 2020 for a Healthier EU



Innovation Union

To find innovative ways to promote active and healthy ageing

Digital agenda for Europe

Focuses on developing and using digital applications to address social challenges

Agenda for new skills and jobs

Will help to highlight the economic role of mental health and the health of the workforce

European platform against poverty

Boost efforts on health promotion and prevention with a focus on reducing health inequality

EBC continues to push for better funding of brain research

	FP5 (pre EBC)	Total in FP6	FP7 2007 - 2013
Brain	115m	431m	2b (June '13)
Cancer	235m	914m	1,716b
Cardiovascular	54m	232m	554m

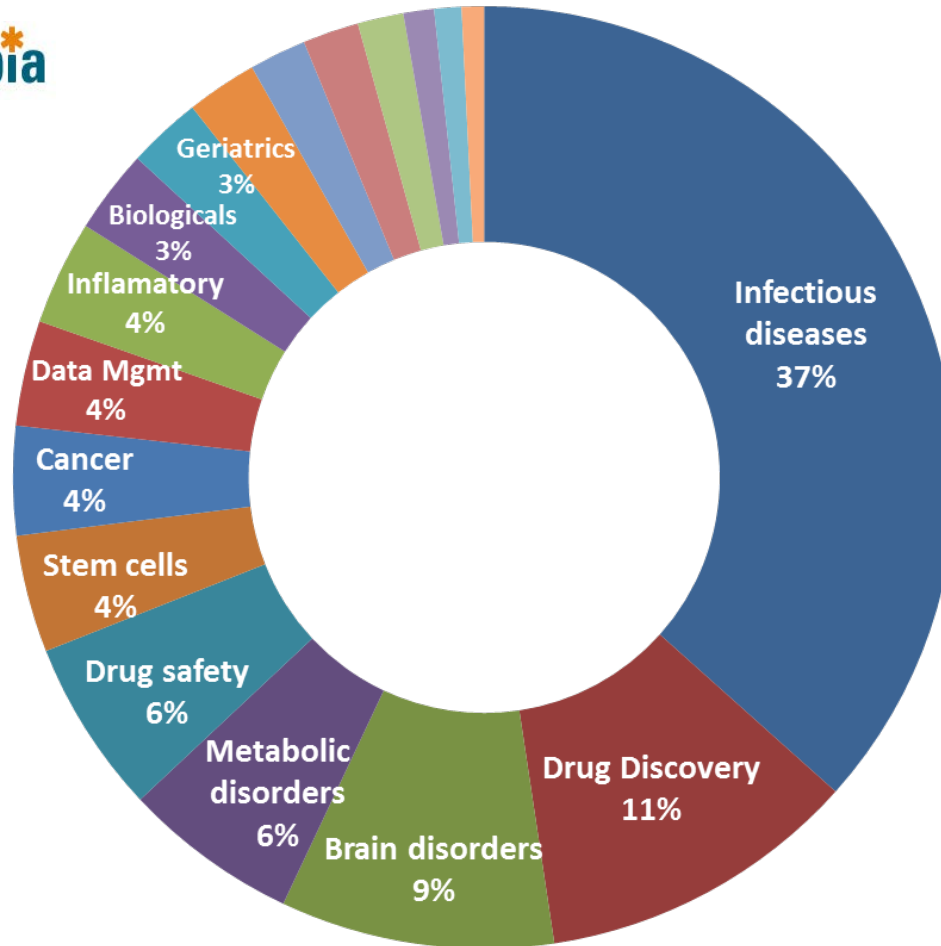


Innovative Medicines Initiative: Joining forces in the Healthcare Sector



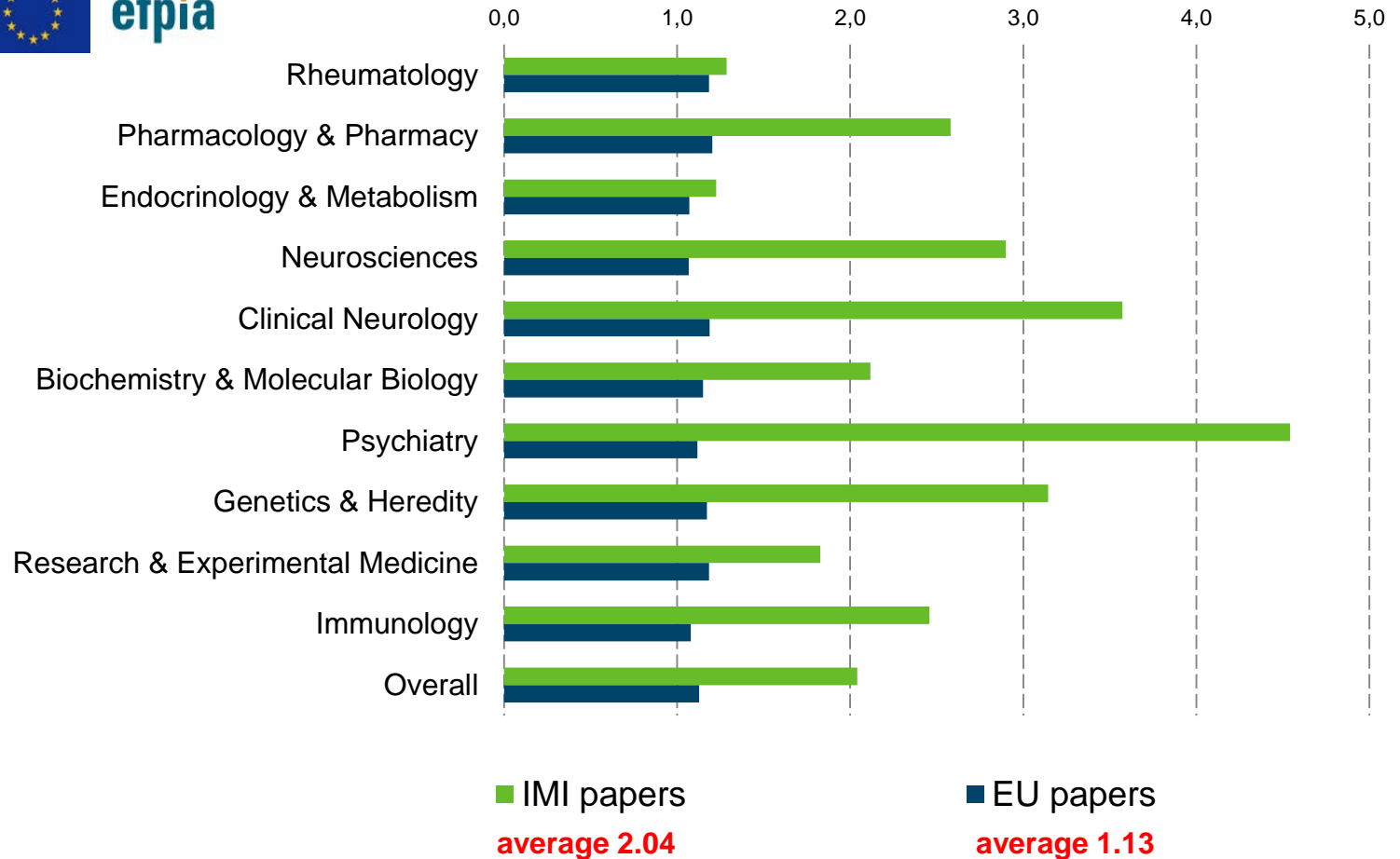
IMI portfolio: budget breakdown

up to call 11



Citation impact 2010-2012

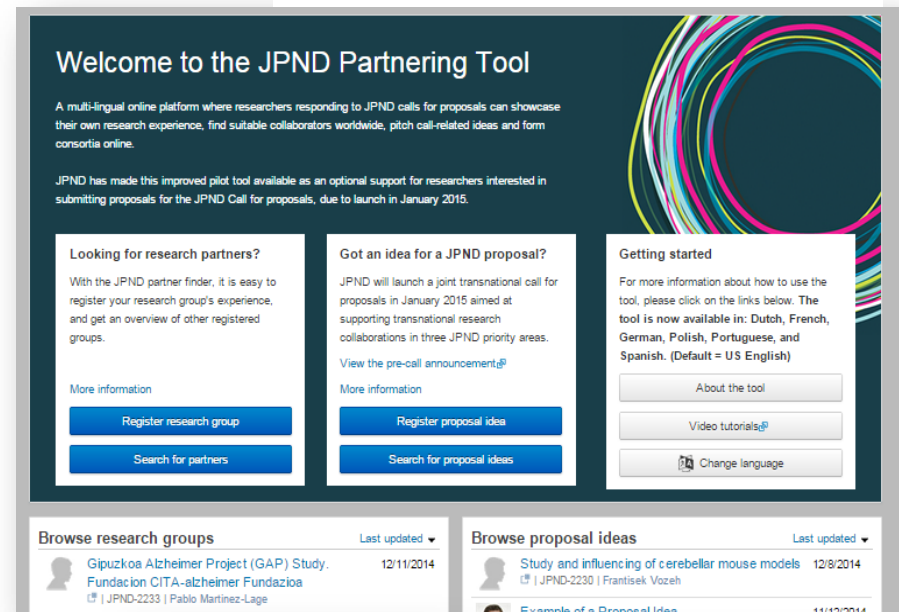
19% of IMI publications are highly cited



Opportunities for research - JPND



- 28 countries working together to tackle neurodegenerative diseases
- €100 million made available since 2011
- New partnership with European Commission
 - €30 million call on:
 - Longitudinal cohorts
 - Animal and Cell Models
 - Risk and Protective Factors



Welcome to the JPND Partnering Tool

A multi-lingual online platform where researchers responding to JPND calls for proposals can showcase their own research experience, find suitable collaborators worldwide, pitch call-related ideas and form consortia online.

JPND has made this improved pilot tool available as an optional support for researchers interested in submitting proposals for the JPND Call for proposals, due to launch in January 2015.

Looking for research partners?

With the JPND partner finder, it is easy to register your research group's experience, and get an overview of other registered groups.

More information

[Register research group](#)

[Search for partners](#)

Got an idea for a JPND proposal?

JPND will launch a joint transnational call for proposals in January 2015 aimed at supporting transnational research collaborations in three JPND priority areas.

[View the pre-call announcement](#)

More information

[Register proposal idea](#)

[Search for proposal ideas](#)

Getting started

For more information about how to use the tool, please click on the links below. The tool is now available in: Dutch, French, German, Polish, Portuguese, and Spanish. (Default = US English)


[About the tool](#)

[Video tutorials](#)

[Change language](#)


Browse research groups

Last updated

	Gipuzkoa Alzheimer Project (GAP) Study. Fundacion CITA-alzheimer Fundazioa	12/11/2014
	JPND-2233 Pablo Martinez-Lage	

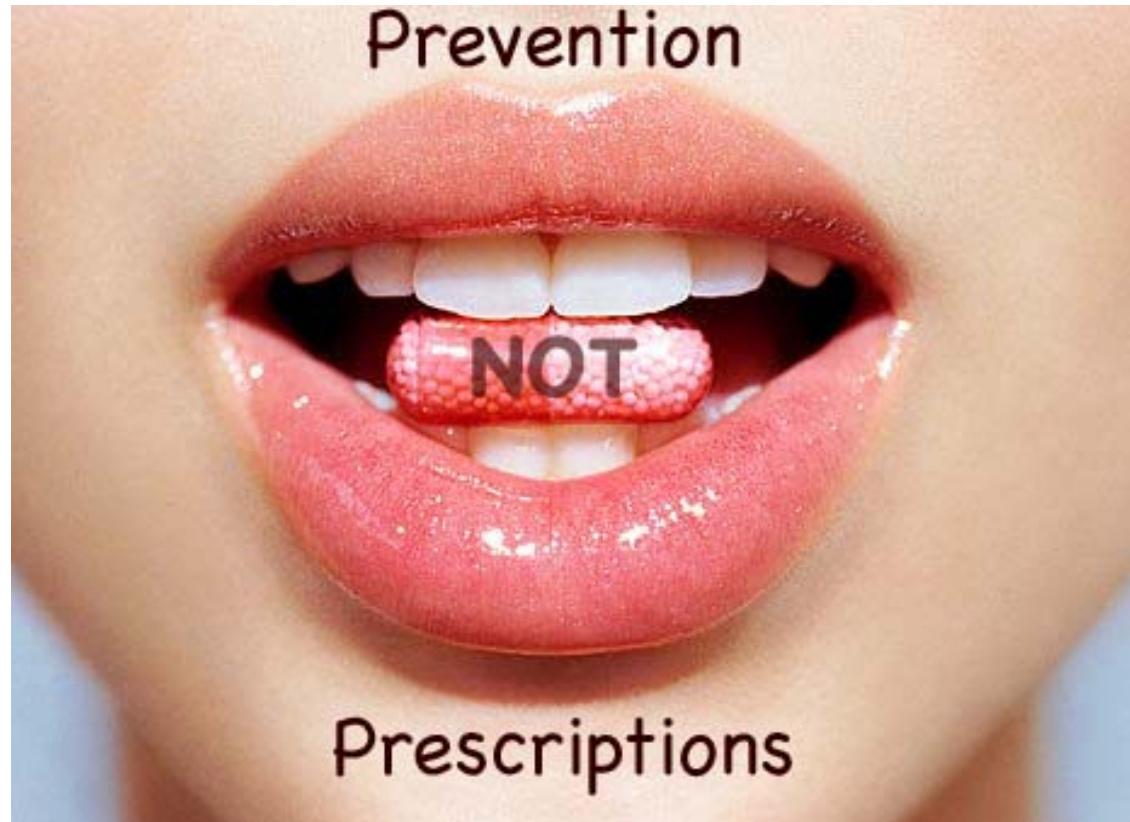
Browse proposal ideas

Last updated

	Study and influencing of cerebellar mouse models	12/9/2014
	JPND-2230 Frantisek Vozeh	
	Example of a Proposal Idea	11/12/2014



A quick fix ...



Lifestyle choices

60% of NHS budget is spent on lifestyle issues:

- Ageing
- Infertility
- Sexual health
- Smoking
- Alcohol
- Obesity
- Drug Addiction



Are schools doing enough to encourage a healthy future for the mind and the body?



The parent's role is crucial... to set a healthy example, for:

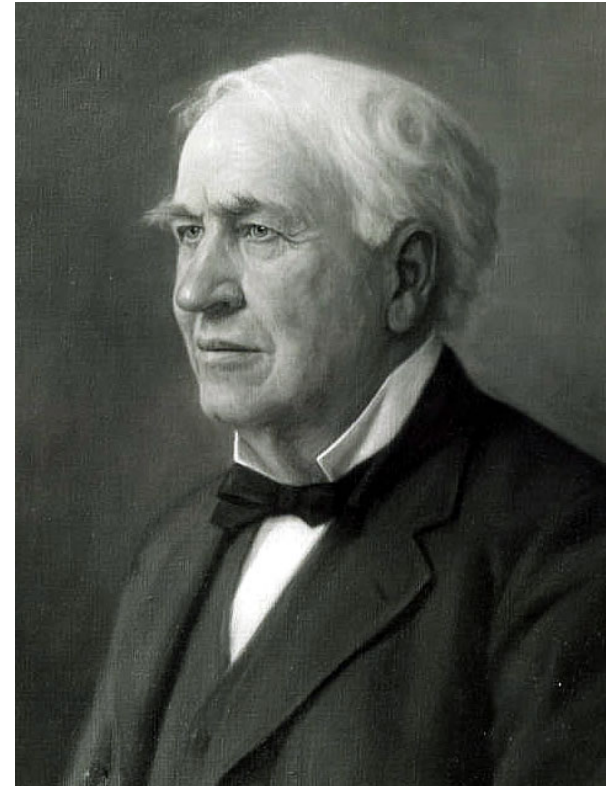
- Diet
- Exercise
- Outlook



.....

**‘The doctor of the future
will give no medicine, but
will interest his patients in
the care of the human
frame, in diet, and in the
cause and prevention of
disease’**

*Thomas A Edison
1847 - 1931*



Safety versus innovation



Education of benefit/risk

Quote from cancer patient:

*'I am already in an unsafe world,
a little more unsafeness doesn't
worry me'*

Dr Albert Jovell
Barcelona

The Regulator and the Payer



Professor Guido Rasi
Chief Executive Officer
European Medicines Agency (EMA)



Professor David Haslam
Chairman
National Institute of Health
& Clinical Excellence (NICE)

New approach to clinical trials

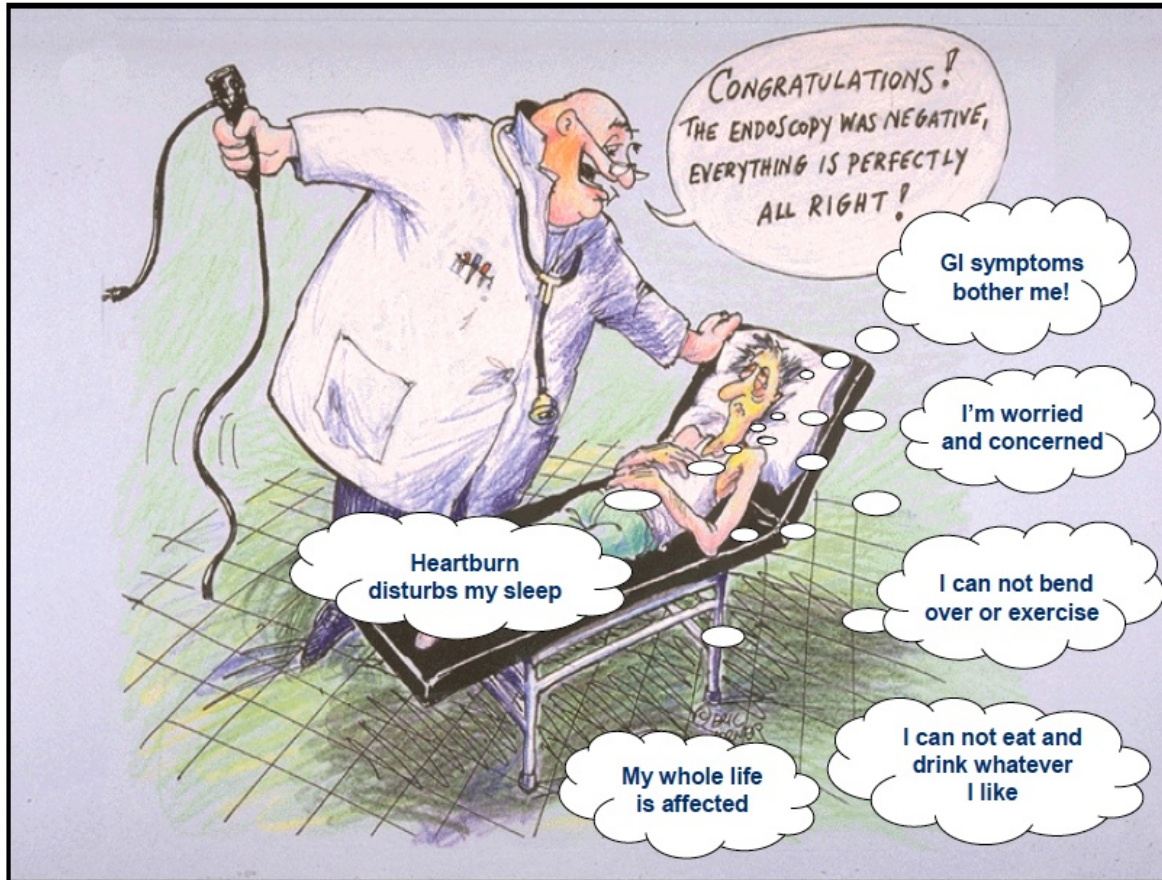


Clinical trials – the facts

- **30% of all clinical trials fail to recruit a single person**
- **85% of clinical trials face delays due to limited participation**
- **Fewer than 10% of Parkinson's patients ever take part in trials, despite overwhelming interest in working with scientists to help speed treatment breakthroughs**



Patient reported outcomes



Patient reported outcomes



Develop a measurement acceptable to European Medicines Agency (EMA) and Food & Drug Administration (FDA) in partnership with:

- Academia (University of Oxford - Ox-PAQ project)
- Clinicians
- Industry
- Regulatory, payers, patients and their families



Presidency of the Council of the European Union

Term 6 (2014 – 2015) – Italy, Latvia and Luxembourg



Term 7 (2016 – 2017) - Netherlands, Slovakia, Malta



Term 8 (2017 – 2018) – United Kingdom, Estonia, Bulgaria



How can we use them?

Latvia:

Jan – Jun 2015

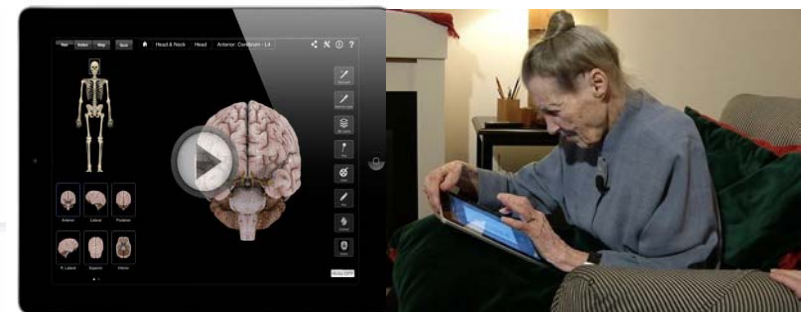


eHealth Conference – Riga

Spoke about the use of IT in overall healthcare management

Priorities in e-Health : Research FP7 2007-2013 DG Connect Goals to offer e-Health solutions to:

- improve quality of care
- increase patient autonomy, mobility and safety
- help clinical decisions based on computer modelling of diseases



Priorities in **Health** : Research FP7 2007-2013 DG Connect

ICT Solutions for **e-Health and e-Inclusion**:

- home monitoring systems
- health alert systems
- molecular diagnostic systems at point of care
- home rehabilitation
- risk assessment
- electronic health records
- computer models of diseases and decisional systems based on models for selecting treatments and performing earlier diagnosis - **VPH (virtual physiological human)**



Luxembourg: Jul – Dec 2015



**High Level Conference "Making Access to Personalised
Medicine a Reality for Patients"- launch of Luxembourg Brain
Council**

The future of medicine

Today

Today we diagnose and treat based on symptoms and a subjective interpretation of symptoms



Future

In the future we diagnose and treat based on biology and select medication based on an objective evaluation of the benefit/risk for the individual patient

P4 Medicine:

Personalised, Predictive, Preventive, Participatory



Netherlands: Jan – Jun 2016



3 Priorities:

- The reduction of salt and sugar intake
- The challenge of finding new antibiotics
- Alzheimer's

The Dementia Programme for the Netherlands



The Delta Plan for Dementia

3 core focus areas:

- Research focused on preventing and curing dementia
- Better dementia care
- A dementia friendly society

The Aim: To improve quality of life for people with dementia and to provide good care for controllable costs.

Being able to count on the support to join society on an equal footing



Partners of people who have dementia are currently **four times** more likely to develop **depression** compared to people who have a partner who does not have dementia.



Depressie en angst bij partners van dementiepatiënten, Karlijn Jolin et al., Huisarts & Wetenschap July 2010.

It's time to move from the phase of funding projects and experiments to the phase of **structurally applying targeted interventions**



Multi-discipline, multi-stakeholder cooperation is a must.



The Patient's journey

Information is needed from:



- **Clinician - about the disease**
- **Industry - about the medication**
- **Patient non-governmental organisations - about the fellow travellers**

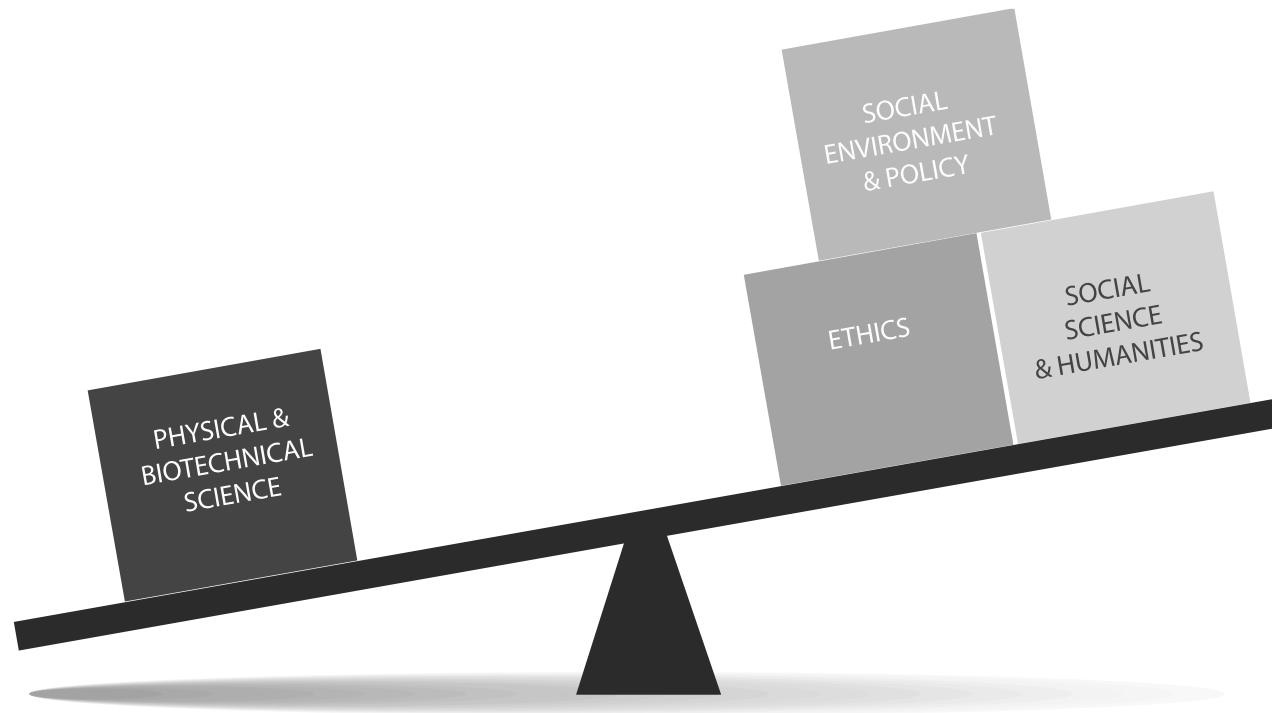
A major challenge – societal engagement

- **How do we involve patients/carers in research?**
- **An informed patient is a cost effective patient**
(Wanless)



“Sciences are the ‘how’. Humanities are the ‘why’. I don’t think you can have the ‘how’ without the ‘why’,”

George Lucas, Producer, Screenwriter and Director



Why we need to talk about Ethics

The best nuclear physicist in the world can:

- develop a new fusion reactor,
- create a more destructive nuclear bomb.....



Science underpinned with **ethics** and **human values** can lead to great inventions and results for the benefit of mankind.

Reducing the gap between declared Values and actual Behaviour

We can see the gap everywhere around us: in politics, in business, in sports, in science.

The best prevention against challenges which could lead to harmful decisions and actions is a strong **moral compass**.



Can we build an Ethical Immune System

It cannot be built by a single vaccination.
It can only grow through a process.

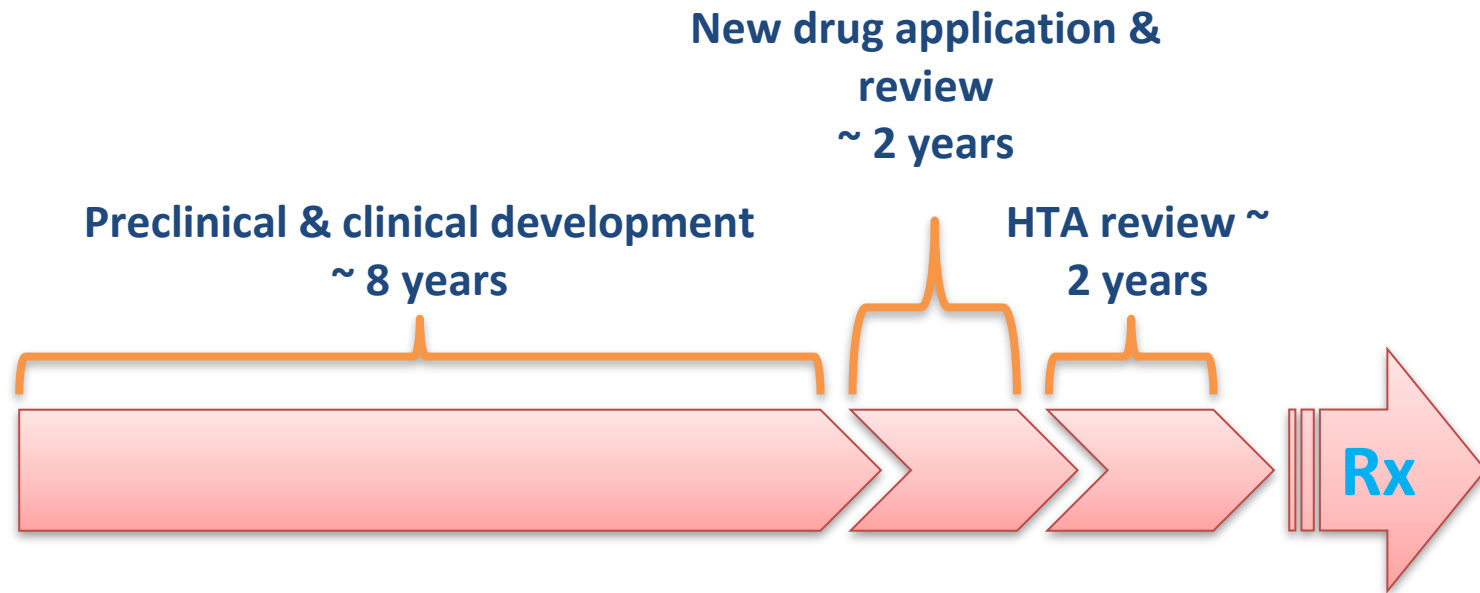
Values and ethics stem from experiences gained during childhood by learning from and observing different people (parents, family members, fairy tale heroes, teachers, peers, role models).



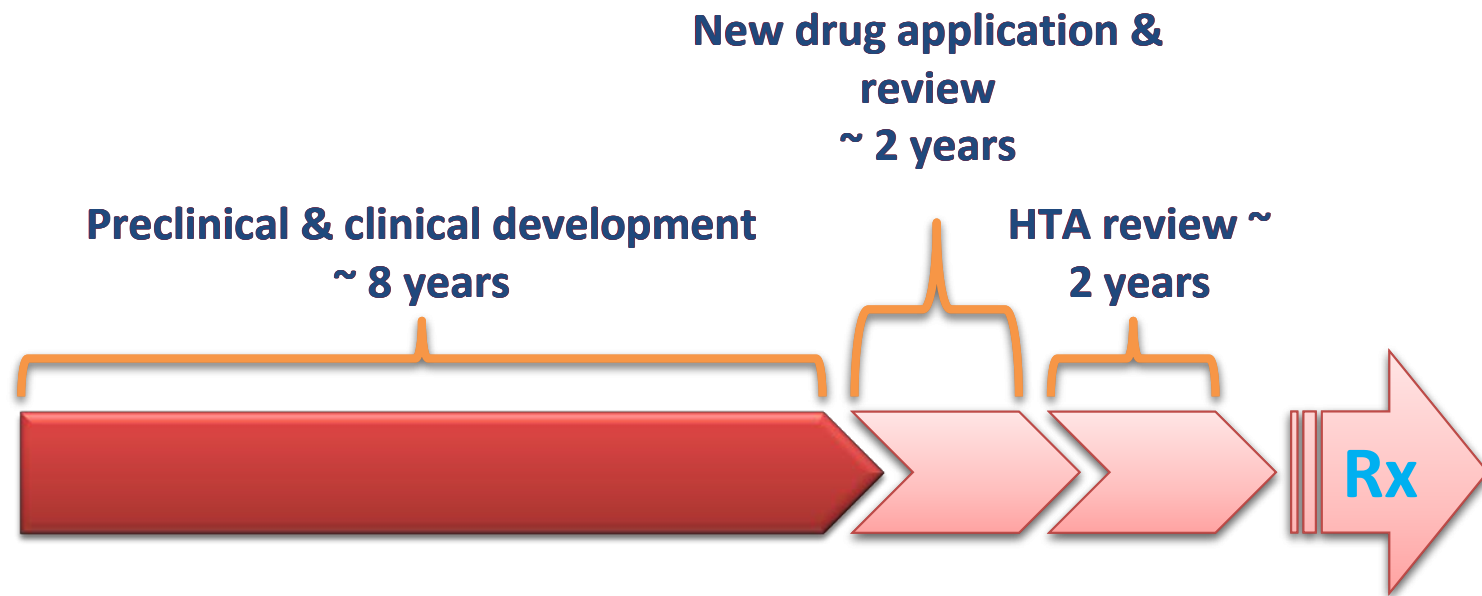
“Almost every child can be raised to become a responsible citizen, caring parent and happy adult with the ability and desire to make others happy, too.”
Dr. Jože Trontelj



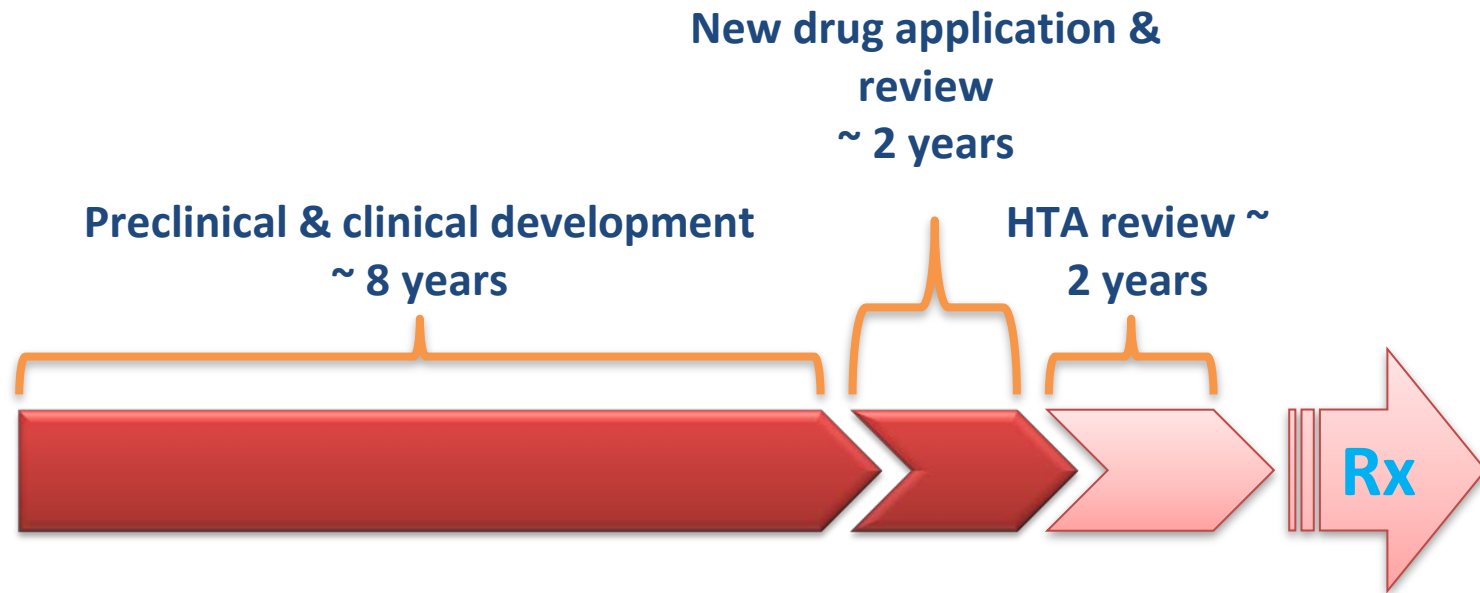
From the bench to the bedside



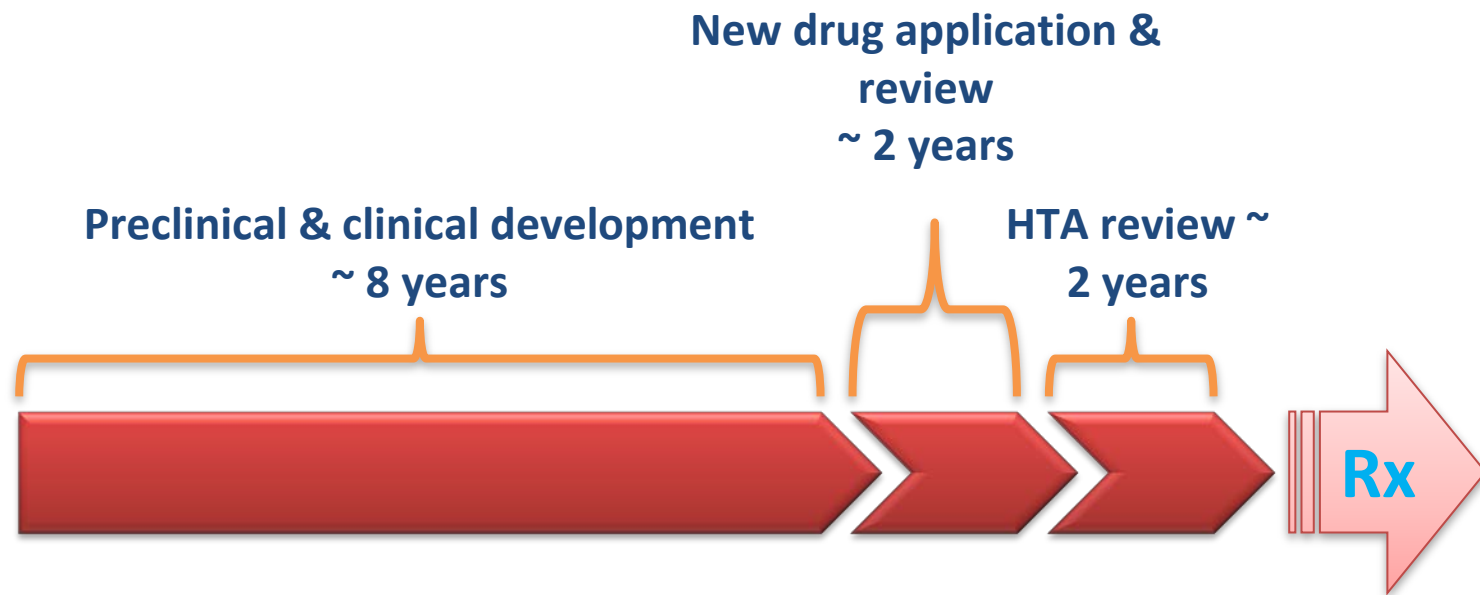
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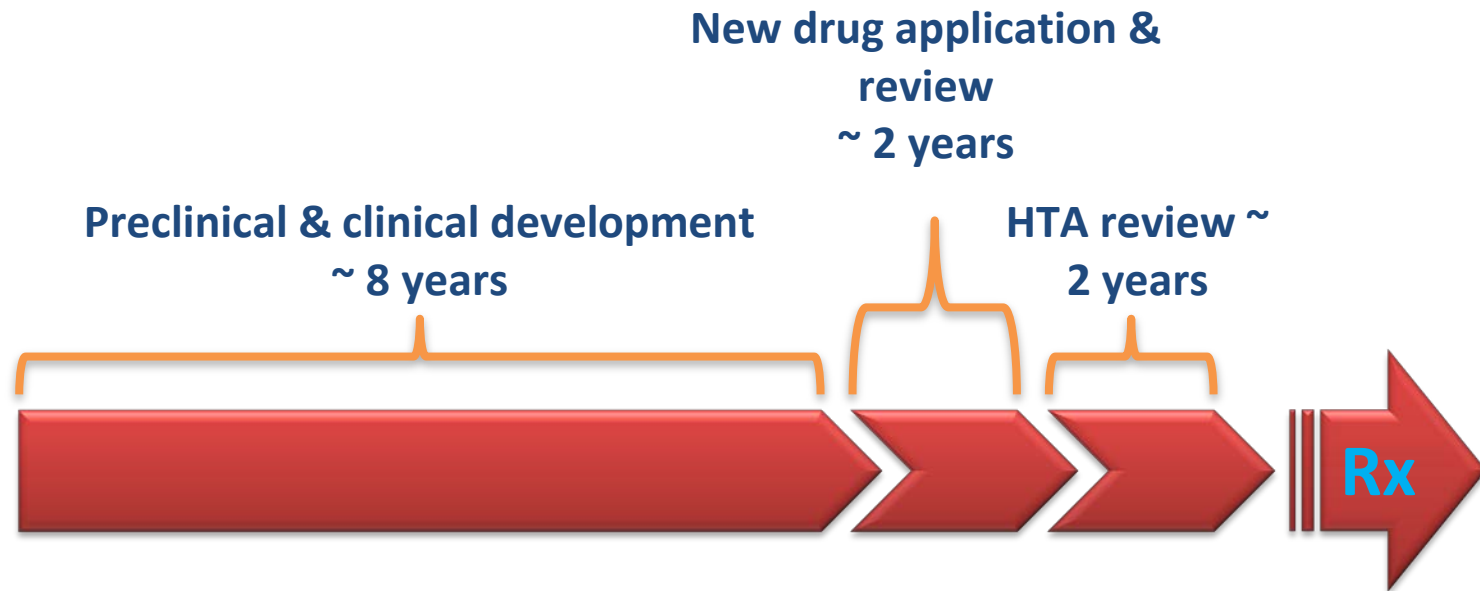
From the bench to the bedside



From the bench to the bedside



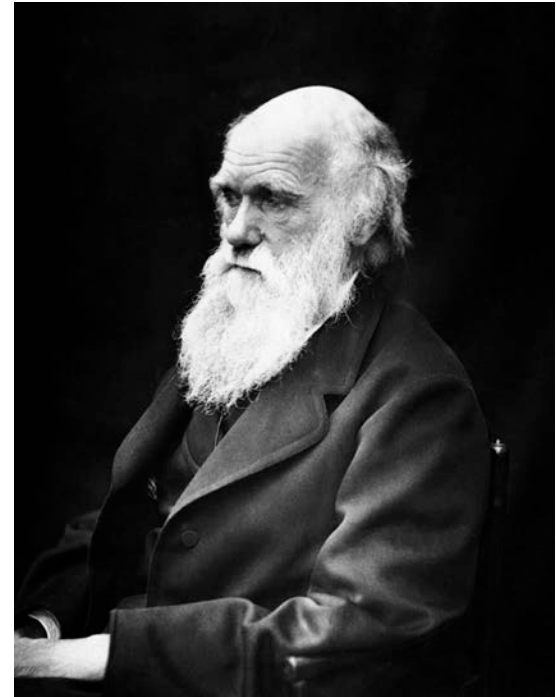
From the bench to the bedside



What matters most ...

‘It is not the strongest of the species that survives nor the most intelligent that survives. It is the one that is most adaptable to change.’

A quote often attributed to Charles Darwin!



Management of long term chronic illness



- The ability to *adapt* and self manage
- To be able to participate in social activity despite all limitations

Making it Happen: The European Semester

The European Union has set up a yearly cycle of economic policy coordination called the **European Semester**



Outcome Measures

Health is Wealth

**Health should be viewed as an investment
rather than a cost**



A Healthy Nation is a Wealthy Nation