Innovative Medicines Initiative

IMI's neuroscience projects – pan – european PPP's in brain research

Dr. Peter Høngaard Andersen
RDG Chair and IMI GB member

May 2013

Society is changing

Depression no. 1 burden in 2030

- Depression is, according to WHO, the greatest cause for disability
- Depression will be no. 1 healthcare burden in 2030.

Rank	As % of total DALYs	2030 Disease or Injury
1		Unipolar depressive disorders
2		Ischaemic heart disease
3		Road traffic accidents
4		Cerebrovascular disease
5		COPD
6		Lower respiratory infections
7		Hearing loss, adult onset
8		Refractive errors
9		HIV/AIDS
10		Diabetes mellitus

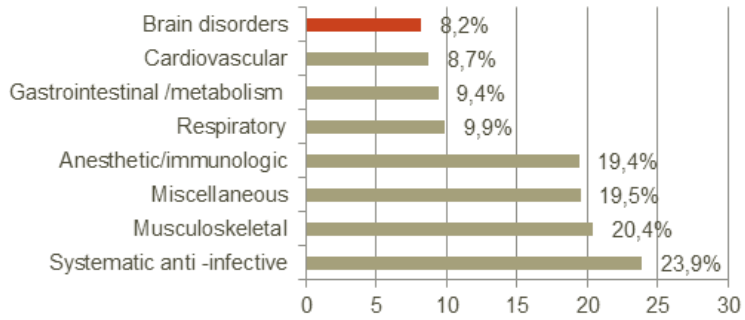
World Health Organization, 2008. The global Burden of Disease: 2004 Update. WHO, Geneva, Switzerland

The challenge of brain research

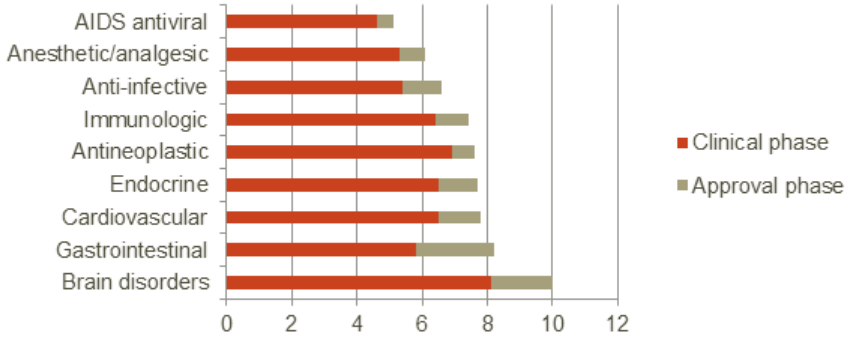
Disease understanding

• The brain being the most complex organ of all, understanding underlying causes for brain diseases is extremely difficult.

Approval rates for new drugs in individual therapeutic areas



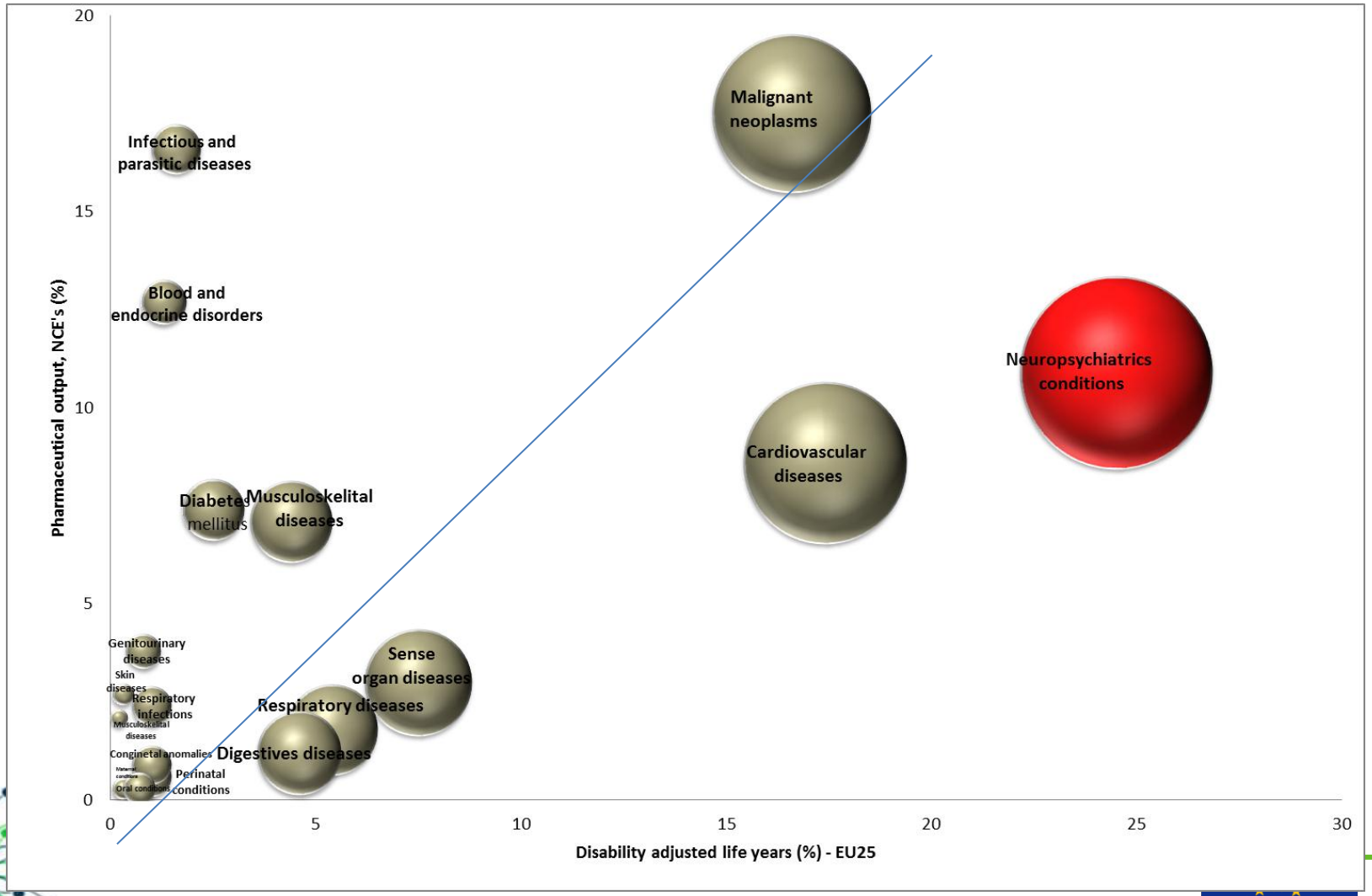
The relative time it takes to get drug approval for brain disorders



"The fall in the European neuroscience investment has been dramatic. The investment trend in neuroscience is very worrying, given that the population in the developed world is living considerably longer, and aging means they develop more brain disease."

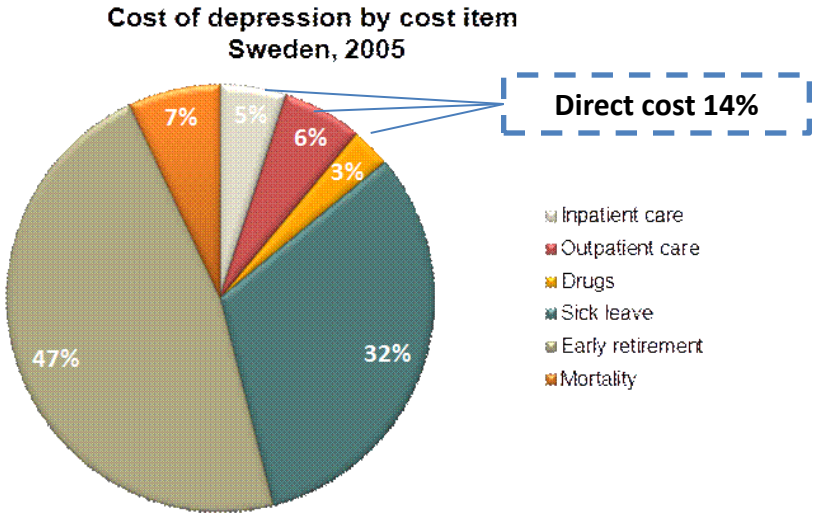
- Mary Baker, president of the European Federation of Neurological Associations

Burden ≠ Investment



The total medical healthcare costs are substantial

- The total cost of brain disorders has recently (2011) been estimated at **€798 billion**
- Drug cost is less than 3 % of total costs
- Sick leave accounts for almost 1/3 of all cost in relation to depression
- Reduced productivity at work is estimated to be the greatest part of depression associated costs



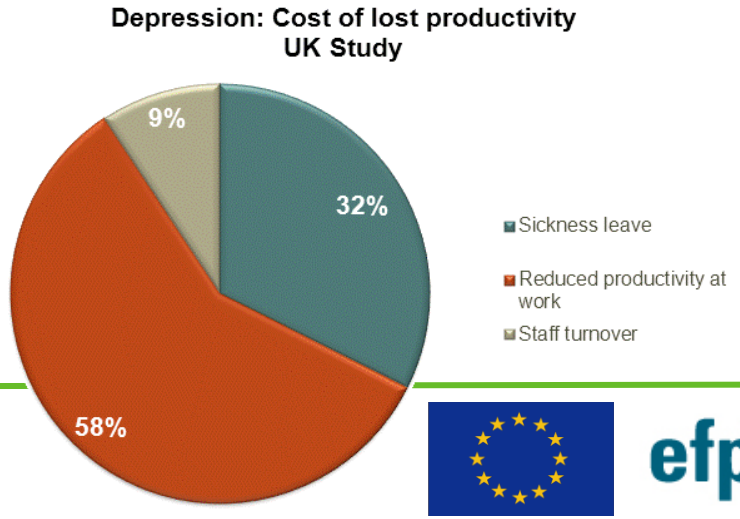


Figure 1: Sainsbury 2008
Figure 2: Sobocki et al. 2007, European Psychiatry
Gustavsson et al. 2011, EBC 2011, Eur Psychopharm

What is the problem?

- Treatment of brain disorders are not prioritized politically
- There continues to be a strong stigma around brain disorders
- The approach from the health care providers' point of view is not integrated – they don’t see the follow-on costs
- Limited public and pharmaceutical research in brain disorders
- Lack of clinical tools
- Incentive systems are insufficient
- Regulatory demands are a barrier

”Big pharma” late stage pipeline - CNS

	Depression	Alzheimers	Schizophrenia	Parkinsons	Other CNS	Phase II programmes
AstraZeneca					naloxegol, OIC	6
Pfizer					Remoxy and Lyrica, pain	2
Lilly		(solanezumab)				1
Johnson & Johnson		(bapineuzumab)				
Bristol-Myers Squibb						7
GlaxoSmithKline				587124		4
MERCK Be well				preladenant	suvorexant, insomnia	2
Roche			bitopertin		ocrelizumab, MS	6

”Big pharma” late stage pipeline oncology

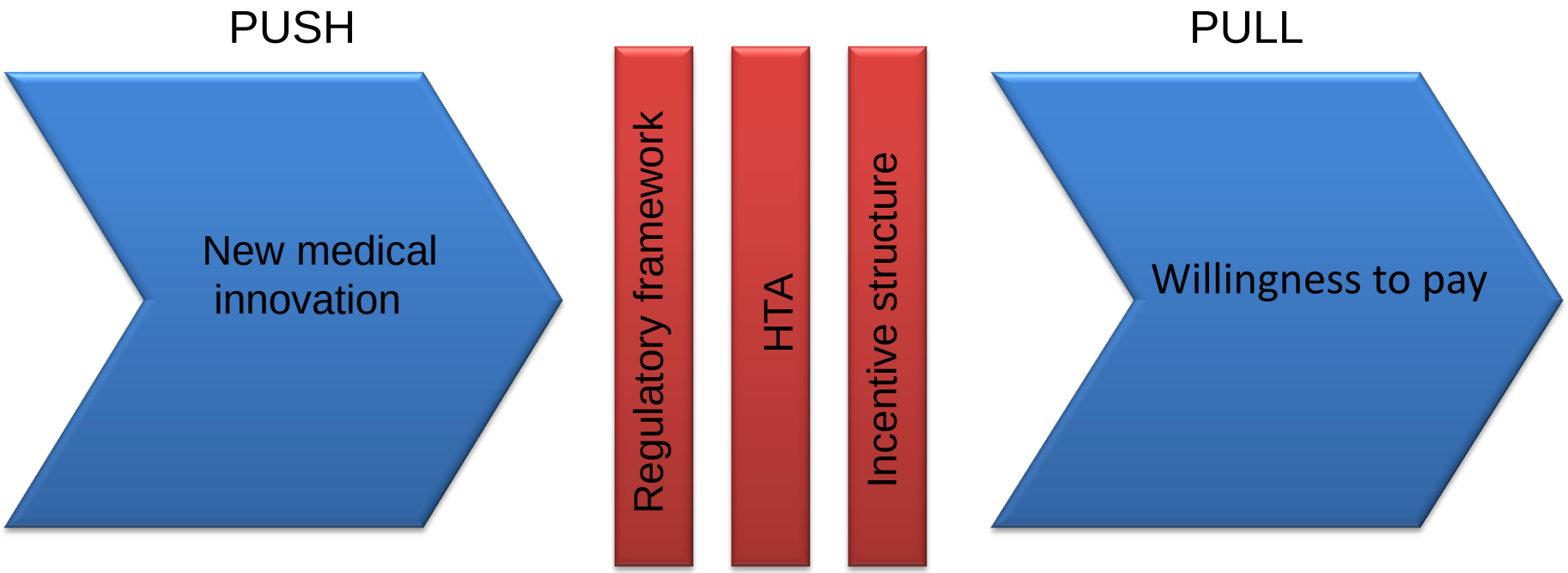
	Phase III programmes	Phase II programmes
AstraZeneca	2	11
Pfizer	4	6
Lilly	3	14
Johnson&Johnson	6	NA
Bristol-Myers Squibb	3	11
GlaxoSmithKline	7	6
MERCK Be well	2	4
Roche	8	12

Oncology

35 phase III drugs and
99 phase II/III drugs

Big pharma will clearly set the agenda within oncology

Challenges



Optimization

Change

Awareness