



Innovative Medicines Initiative

Innovative Medicine Initiative (IMI2) *Towards integrated healthcare solutions in public private partnerships*

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Overview of the presentation




- Setting the scene
- Innovative Medicines Initiative
 - IMI1 present evolutions & some outcomes
 - IMI2, setting the scene for the next years
- Strategic governance groups
 - Structure and functioning
 - SGG Data Knowledge management
 - Some call proposals: RADAR

The World's Aging Population is Growing

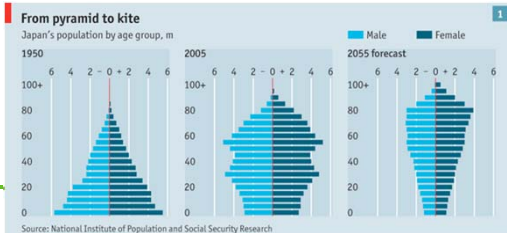
- Global population age 60+ will more than double
 - 2000 – 605 million
 - 2050 – 2 billion
- Developing countries with large aging populations

Country	2010	2040
Asia	279 million	773 million
Europe	119 million	183 million
North America	45 million	90 million
Middle East	21 million	29 million (by 2050)
Africa	36 million	99 million

Population age 65+ 

World Population Aging 1950-2050, Population Division, DESA, United Nations
 - United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2010 Revision, New York, 2011
 - The New Arab Consumer 2012
 - Aging Population Challenges in Africa, November 2011, African Development Bank.
 - United Nations, Department of Economic and Social Affairs, Population Division

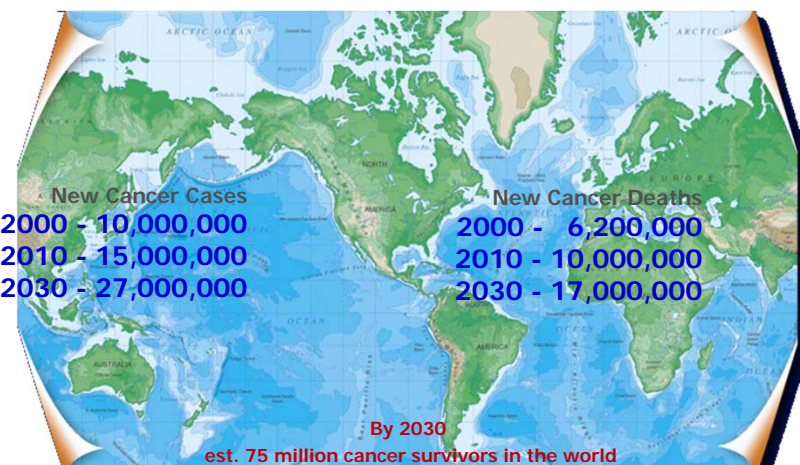
From pyramid to kite
 Japan's population by age group, m



Source: National Institute of Population and Social Security Research

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Time is a precious commodity ...



New Cancer Cases
 2000 - 10,000,000
 2010 - 15,000,000
 2030 - 27,000,000

New Cancer Deaths
 2000 - 6,200,000
 2010 - 10,000,000
 2030 - 17,000,000

By 2030
 est. 75 million cancer survivors in the world

B. W. Stewart and P. Kleihues, World Cancer Report, WHO-IARC. Lyon: IARC Press, 2003;
 Peter Boyle, AACR Translational Cancer Medicine meeting, Singapore 2007.

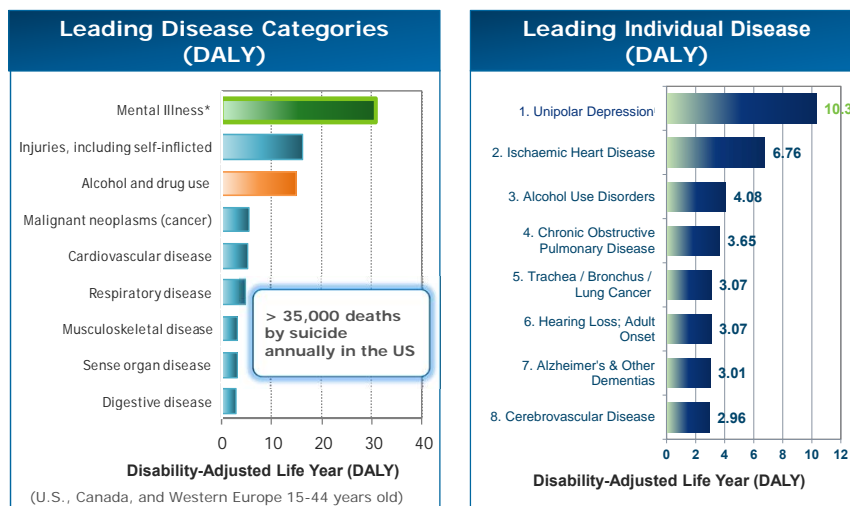
Complex Medical Problems Create significant Unmet Needs

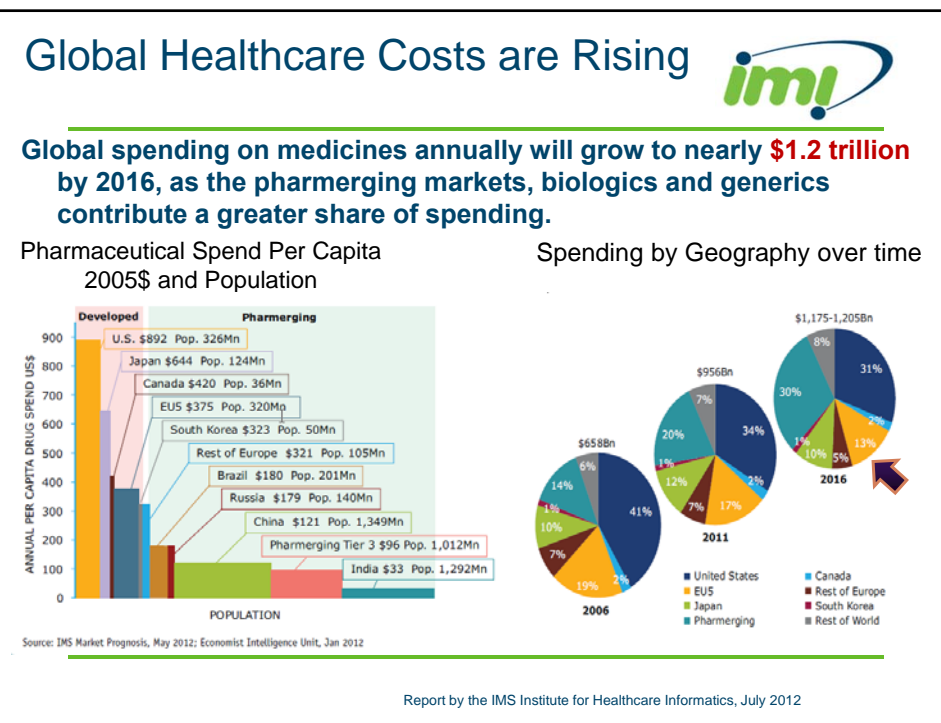
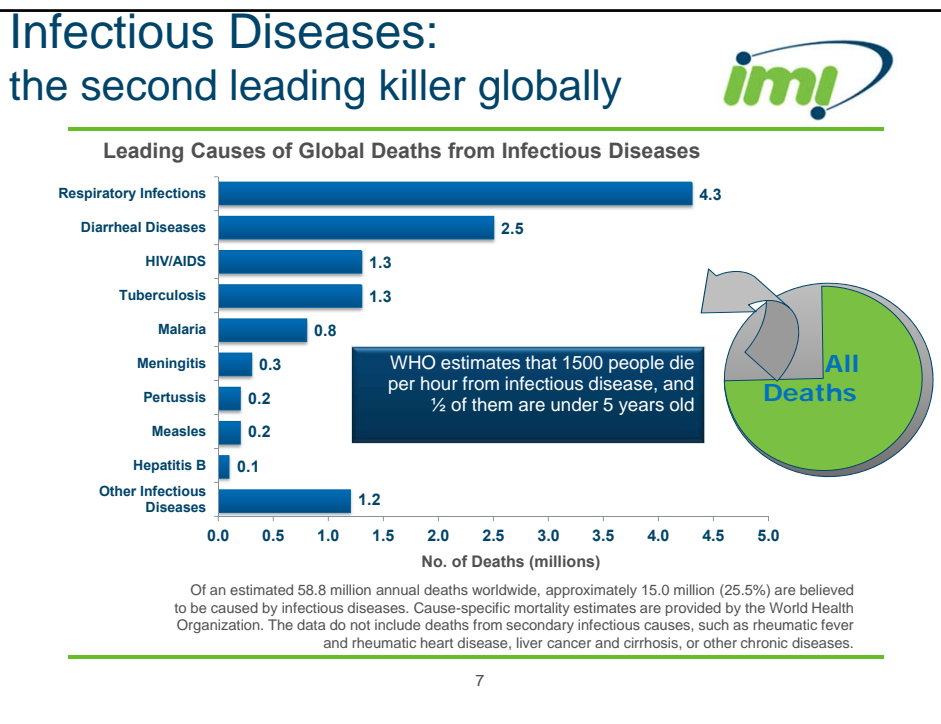


- **Alzheimer's Disease**
 - Number of people with AD will double by 2030 – more than triple by 2050
 - 2030 – Worldwide cost - \$1.8 trillion
- **Diabetes**
 - Number of people with diabetes will increase 37% from 2000-2030
 - 2030 - Worldwide cost - \$486 million
- **Cancer**
 - Number of people with cancer and number who die from it will nearly triple between 2010 and 2030
 - 2030 – Worldwide cost – \$1+ trillion

World Alzheimer's Report 2010, The Global Economic Impact of Dementia, Alzheimer's Disease International
 - International Diabetes Federation, World Economic Forum
 B. W. Stewart and P. Kleihues, World Cancer Report, WHO-IARC, Lyon: IARC Press,
 Peter Boyle, AACR Translational Cancer Medicine Meeting, Singapore 2007
 Kaiser Health News Daily Report, "September 27, 2011

Major Causes of Disability Worldwide: ADULTS Global Burden of Disease (DALYs)

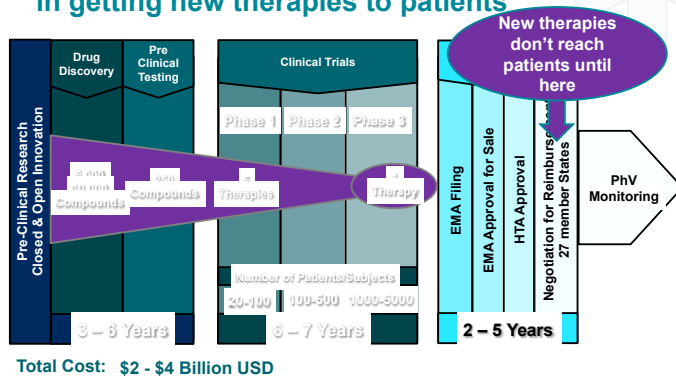




Drug development



Current EU pathways are expensive and slow in getting new therapies to patients



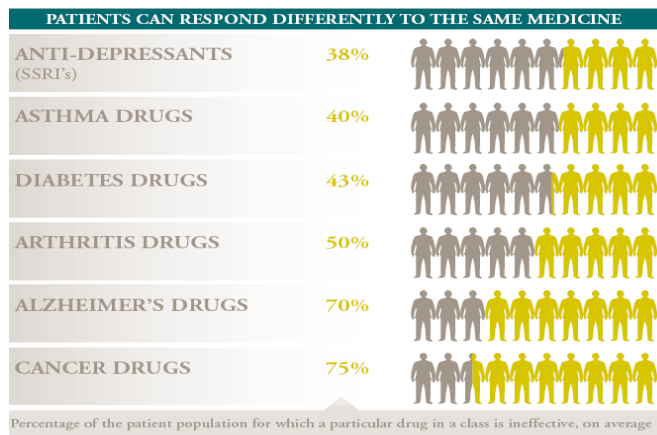
Sources: Drug Discovery and Development: Understanding the R&D Process. www.innovation.org;
 CBO, Research and Development in the Pharmaceutical Industry, 2006;
 Forbes, [Matthew Herper](#), "The Truly Staggering Cost Of Inventing New Drugs", February 10, 2012



The problem of drug treatment

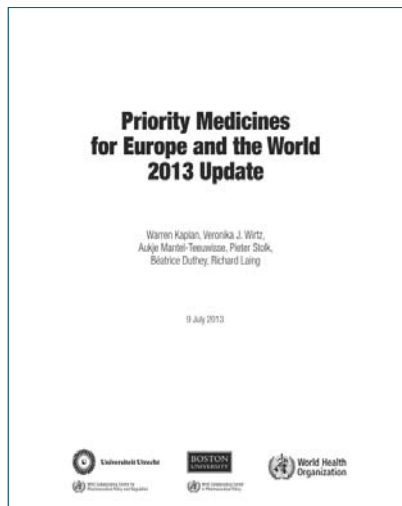


Only a subset of patients benefit from available treatments



Source of data: Brian B. Spear, Margo Heath-Chiozzi, Jeffrey Huff. "Clinical Trends in Molecular Medicine, Volume 7, Issue 5, 1 May 2001, Pages 201-204.

Unmet medical needs



- **Burden of disease on patient and society = total cost of disease for healthcare and social security**
- **Unmet need:**
 - No treatment
 - Inadequate treatment (resistance or treating symptoms, not cause)
 - Inadequate formulation for specific population (geriatric, pediatric, etc)
- Barriers and incentives

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The Innovation Threshold

Significant unmet medical needs

- Opportunity to reduce the burden of disease
- More complex biological scientific problems
- Aging demographics
- Access and affordability

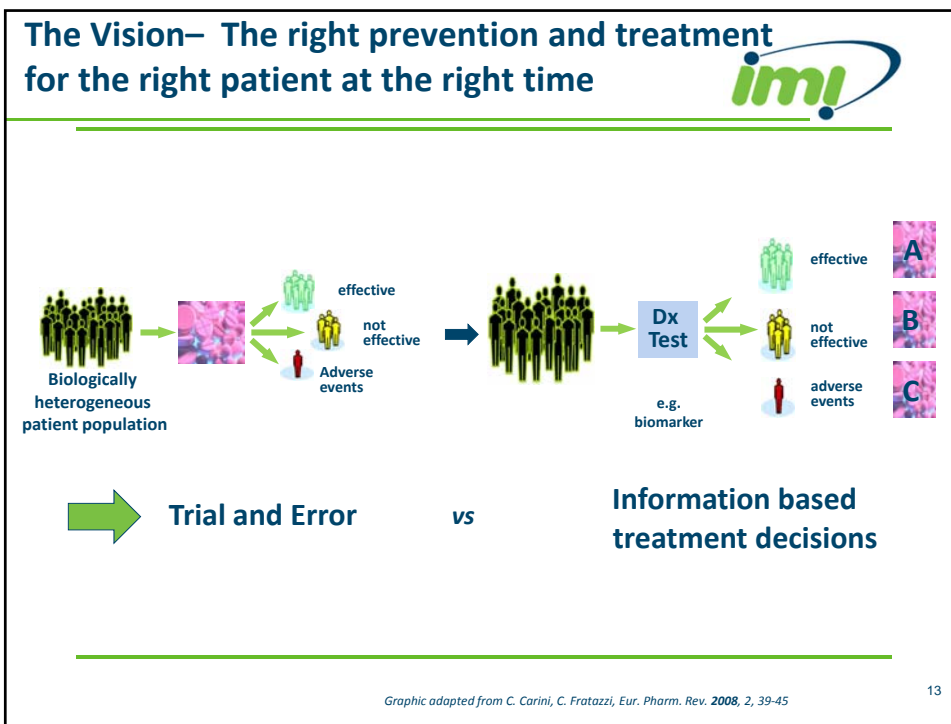
Significant pressure on innovation

- Rising cost of health care
- Rising cost of development
- Difficult economic conditions

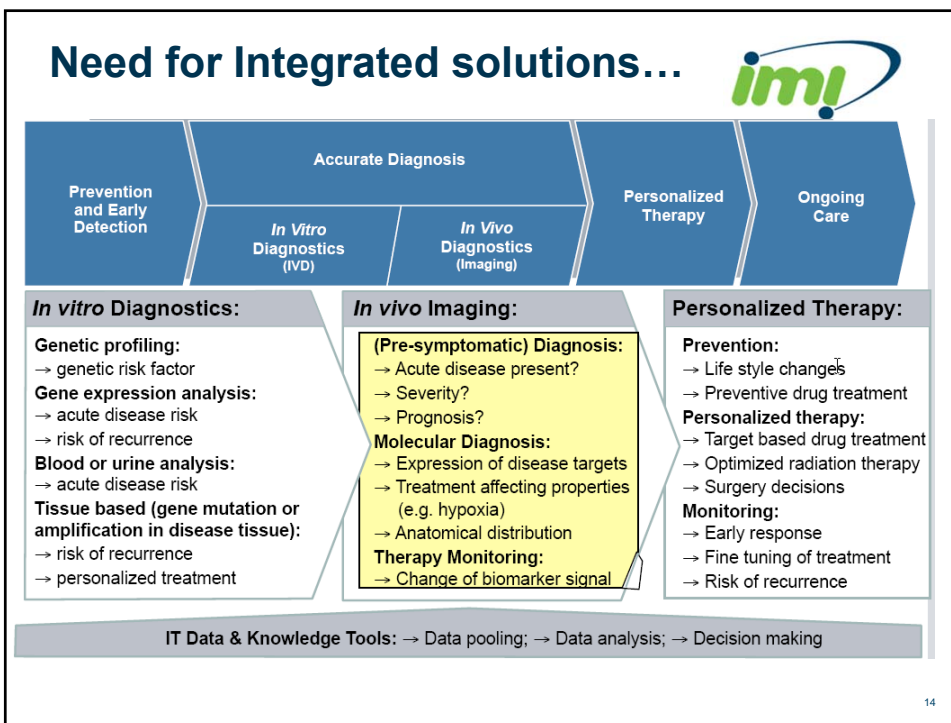


Challenges but also opportunities

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Using the power of Integrated Informatics & various external networks to create real value

Extended Information Sources

Biological Networks

- Pathways
- GO Categories
- Domain co-occurrence
- Human and Mouse phenotype
- Protein- and Drug- Gene Interactions

Remote Sensing

EMR Data

Ocular Imaging

Knowledge Compendia

Social Media

Systems-Level Analytics

Genotype-Endophenotype-Phenotype Networks

Multi-Scale Disease Models







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Big Data Defined

What is it ? Why is it different ?... Its Real World Data

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Big Data offers value to the pharma industry

 Research	<ul style="list-style-type: none"> In silico target screening Genomic diagnostics Toxicity prediction
 Development	<ul style="list-style-type: none"> Trial simulation Patient recruitment Trial design Asset prioritization Competitive insights Unmet need Reimbursable dossier development
 Market Access	<ul style="list-style-type: none"> Formulary/ protocol negotiation Value-based pricing Payor collaboration (e.g., patient selection, adherence)
 Commercial	<ul style="list-style-type: none"> Customer insights (e.g., consumer data, social media) Multichannel optimization Launch excellence Brand positioning
 Medical	<ul style="list-style-type: none"> Safety monitoring Targeted physician/ patient education
 Operations	<ul style="list-style-type: none"> Quality analytics End-to-end supply chain forecasting/ planning Externalization Distribution channel strategy

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Data in drug discovery ...

Next-Gen Sequencing	Metabolomics	Structural Biology	<ul style="list-style-type: none"> A LARGE NUMBER OF AREAS IN COMPUTATIONAL LIFE SCIENCES ARE LIMITED BY AVAILABLE COMPUTE POWER. THIS LIMITS THEIR APPLICABILITY TO RELATIVELY SMALL SYSTEMS (E.G. SINGLE CELLS RATHER THAN WHOLE SYSTEMS) BIG DATA IS CHALLENGING THE CURRENTLY AVAILABLE COMPUTE POWER. NEXT GENERATION HIGH PERFORMANCE COMPUTING SYSTEMS WILL LIFT A LOT OF THESE LIMITATIONS THE PREDICTED 1000X INCREASE IN COMPUTE POWER WILL TAKE COMPUTATIONAL LIFE SCIENCES BEYOND THE USABILITY TIPPING-POINT IN MANY AREAS. HPC HAS BEEN IDENTIFIED AS A CRITICAL FUTURE CAPABILITY FOR JANSSEN R&D – “THE IMEC” HPC LAB IS SELECTED AS THE ONLY POTENTIAL EUROPEAN CENTER
Epigenomics	Regulatory Networks	Nano Technology	
Micro-array	Protein Pathways	Drug Design (traditional)	
Comparative Genomics GWAS	Systems Biology	Data Analytics Pattern Recognition	
Proteomics	Image Analysis & Visualization	Clinical Outcome	

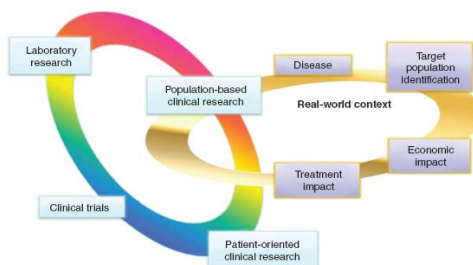
NEXT GENERATION HIGH PERFORMANCE COMPUTING WILL ENABLE A NUMBER OF PARADIGM SHIFTS IN COMPUTATIONAL LIFE SCIENCES

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Linking translational research and evidence related to relative medical value

The four key phases of translational research involve

- Translation of basic research into clinical use
- Controlled clinical efficacy and safety studies that provide insight into potential clinical implications
- Translation of evidence-based guidelines into routine clinical practice
- Population-based research



Lehner et al., J. Compar. Effect. Res. (2012) 1(Suppl. 1)

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Alternative: Pathway to holistic care

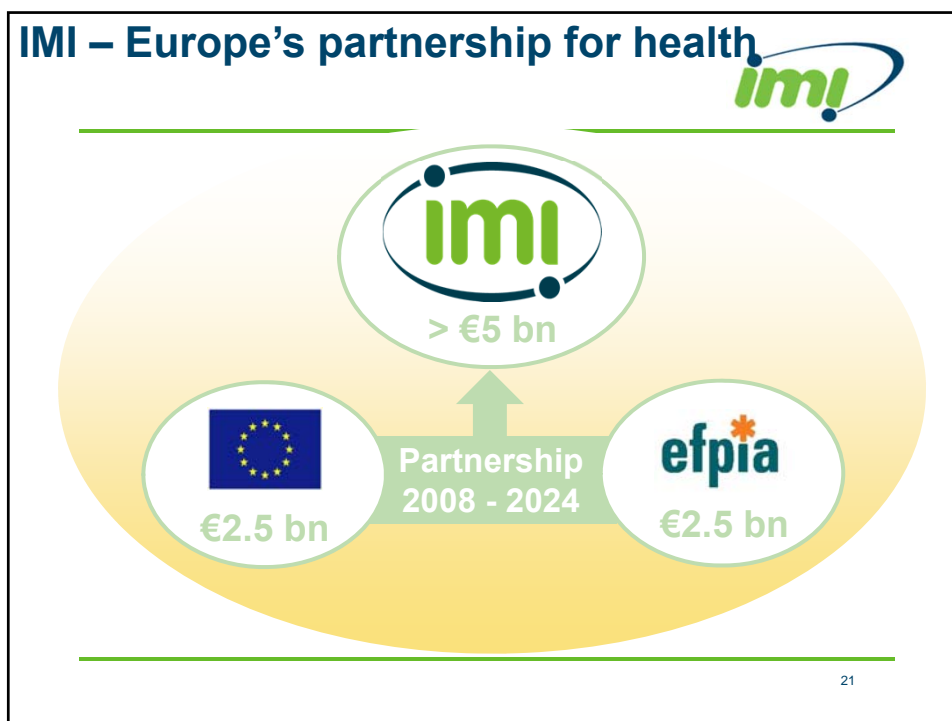
Patient's and Public's interest

- Best therapy available (not only drug)
- Outcomes data on therapy
- Best combination of therapies if needed
- Most reasonable cost
- Least risk/intervention
- Maximal information about the therapies
- Ease of obtaining care

Traditional pharma focus

- Focus on drug therapeutics
- Focus on broad marketing strategy including DTC
- Efficacy in regulatory terms rather than outcomes important to patients
- Safety profile as acceptable for approval and continued marketing
- No or little data on combinations
- No or little data on comparisons
- Indigestible information (LABELS)
- Direct to consumer advertising
- Highest price the market will bear
- Not interested in beneficial products without patent protection/exclusivity

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The vision: right prevention and medicine to the right patient, at the right time

- Cross disciplinary and collaborative research **addressing priority healthcare challenges** (i.e. where the burden of disease is the highest on healthcare, social security and labour system);
- Widespread **translation of new and existing knowledge into innovative, effective products**, strategies, interventions and services in cooperation with all players in the healthcare ecosystem;
- **Integrated R&D framework to attract investment** and create new market opportunities increasing employment and economic growth;
- Transparent platform facilitating engagement of **all key stakeholders in the provision of healthcare** i.e. healthcare practitioners, regulators, patients and payers;
- Training and infrastructure to support **effective implementation of the research** outcomes.

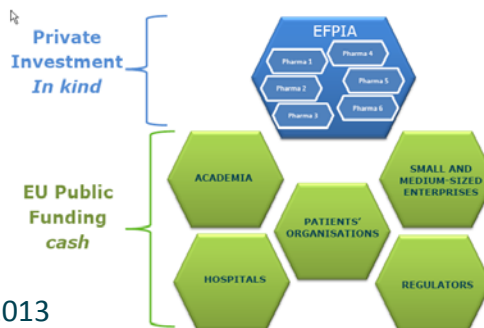
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The Innovative Medicines Initiative (IMI1) An European Response to the Innovation Challenge



The IMI is a unique Public-Private Partnership (PPP) between the pharmaceutical industry represented by the European Federation of Pharmaceutical Industries and Associations (EFPIA) and the European Union represented by the European Commission

A Typical IMI Consortium



Starting dates calls:2008-2013

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An international, cross-sector community



€2 billion → 11 calls for proposals → 59 collaborative projects



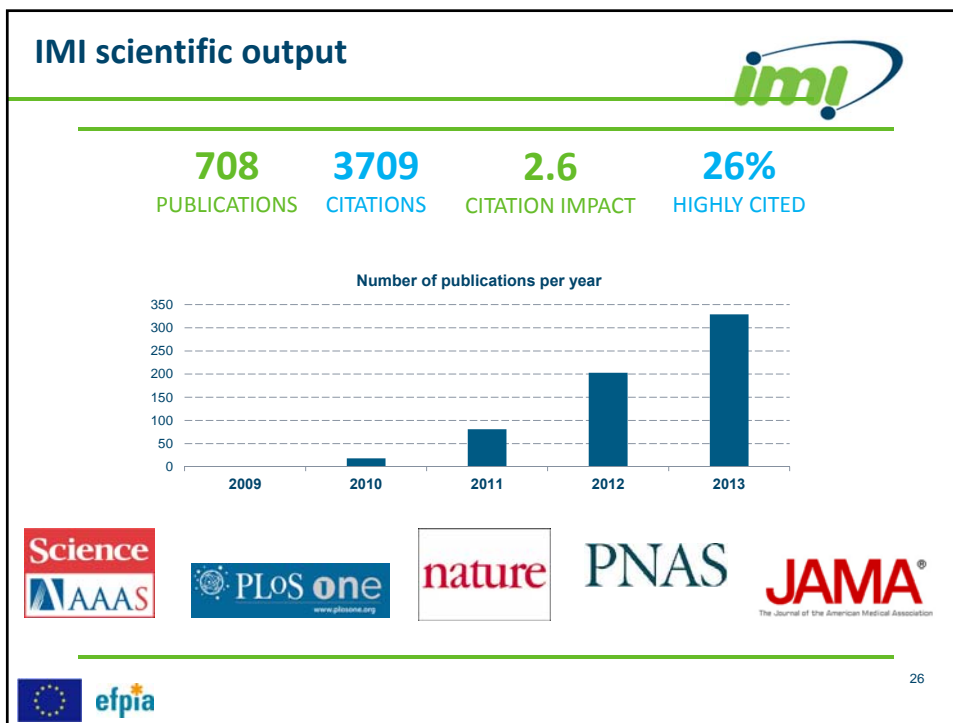
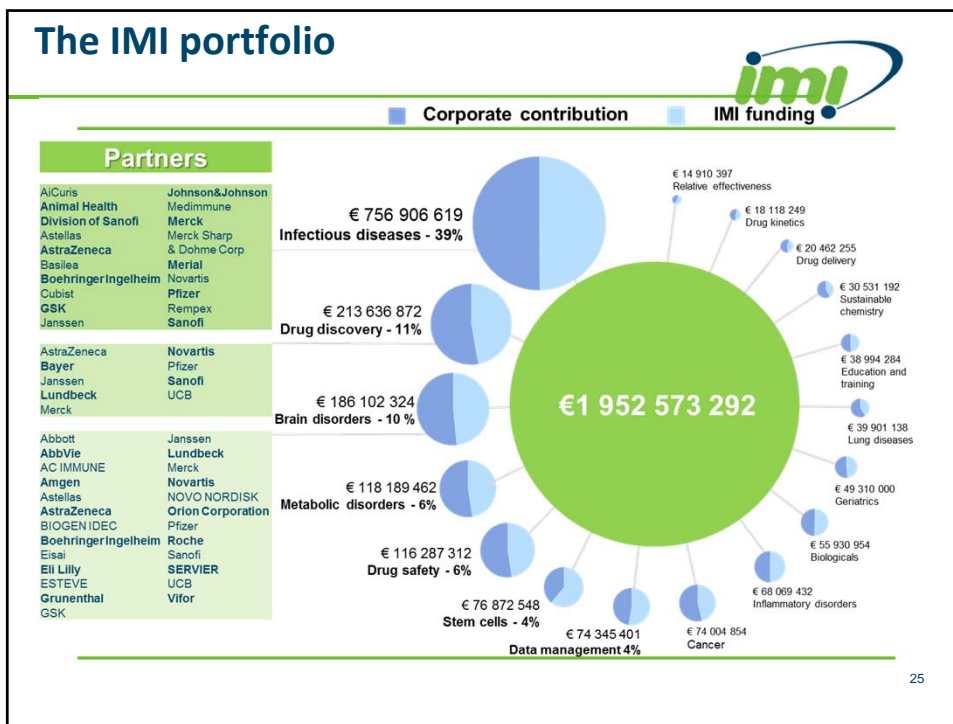
61% of projects reported some form of **PATIENT INVOLVEMENT**

REGULATORS ON BOARD OF 12 PROJECTS

50% of projects have **REGULATORY AUTHORITIES** representatives in Scientific Advisory Boards

- Working for**
- Collective intelligence networks
 - Improved R&D productivity
 - Innovative approaches for unmet medical needs

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Making a difference



Implementation of project results inside industry

Project	Area	Results description
IMIDIA	diabetes	The human beta cell line EndoC BetaH1 has been validated by Endocells and 3 pharma partners confirming their initial insulin secretion capacity. These cells have been successfully transferred as a research tool for drug discovery to industrial partners.
DDMORE	knowledge management	Several drug/disease models identified by DDMORE are adopted or further developed inside the industry.
eTRIKS	knowledge management	Adoption of the eTRIKS results, TransMART system deployments in 5 pharmaceutical companies.
EUROPAIN	Chronic pain	Preclinical model of spontaneous pain in rodents has been developed, standardized, validated, and is already used for internal decision making in the drug development process. The ultraviolet B (UVB) pain model has also started to be used for in house R&D.



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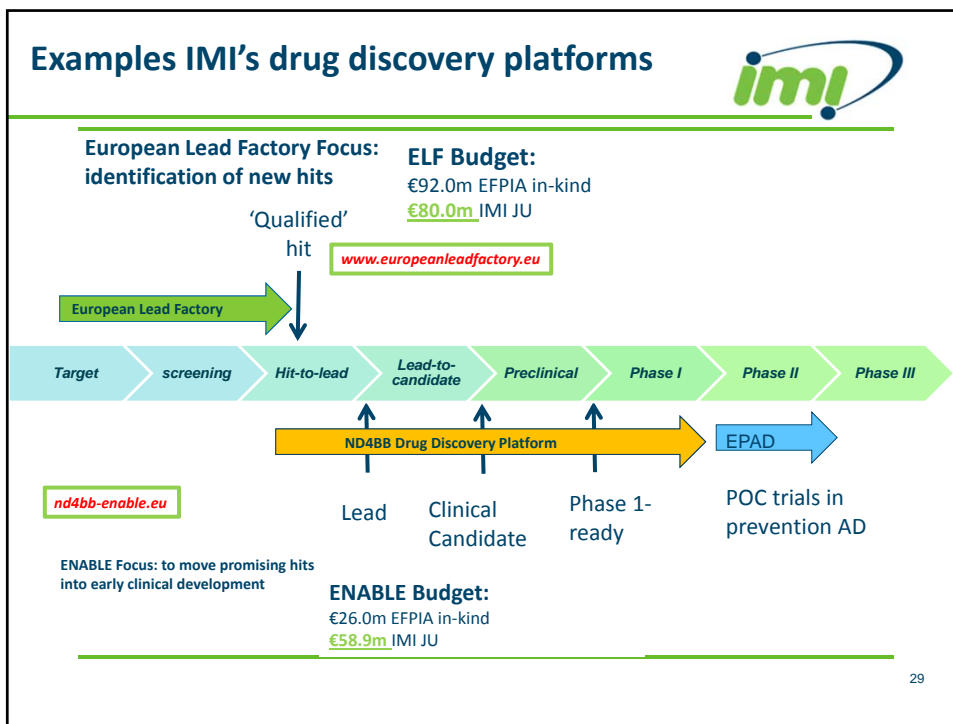
Impact on regulatory framework



Project	Area	Results description
PROactive	COPD	Qualification Advice completed at the EMA
EU-AIMS	autism	Started EMA formal scientific advice procedure for qualification of 5 biomarkers in ASD
eTOX	drug safety	Provided an update on the eTOX database and the prediction system to the CHMP Safety Working Party (SWP) at EMA. Scientific Advice Procedure was initiated.
MARCAR	cancer	Has developed new biomarkers, technologies, and alternative test systems that help explain or predict animal and/or human carcinogenic pathways and mechanisms for non-genotoxic carcinogenesis. This will provide enhanced scientific rationale for Carcinogenicity Assessment Document (CAD) submissions, with potential impact for ICH S1 carcinogenicity testing guideline revisions.
Safe-T	drug safety	Developed and now progressed towards an aligned EMA/FDA qualification a set of novel safety biomarkers for drug-induced kidney, liver, and vascular injury.
DDMORE	knowledge management	In May 2012 an advisory meeting with EMA and FDA representatives was held. Through a Modelling Review Group, DDMoRe is in regular contact with both the EMA and FDA regarding the qualification of the content of the project's Model Library.




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SME participation in IMI projects (up to 8th Call)

Total IMI commitment	€ 723 million
Total received by SMEs	€ 133 million
% SME	18.4%
Total IMI participations	886
Total SME participations	135
% SME	15%

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SME success stories



SME involved in **SAFE-T** project

"Thanks to IMI our company went from **6 to 50 employees**.
Now we are ready to go to further expand."



SME involved in **IMIDIA** project –

"1st product released to the market in 2013 – **IMI was instrumental in validation of the first cell line product**, 2nd product release planned this year, 3rd diagnostic product in development.

In preparation: **a new patent filing** to protect technologies for the creation of third generation human beta cell lines.



SME involved in **PharmaCog** project

"We are developing a blood panel for AD for diagnosis, stratification and companion diagnostics in AD. **The Panel was tested on 300 patients in IMI project**"



SME involved in **eTOX** project

"We have developed in silico models for predicting toxicity, which were validated by pharmas in eTOX. Now **we have signed a contract with one of the companies to use our models in house.**"



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Promoting patient involvement



✓ IMI makes efforts to enhance **patient centric approach**

- **Patient dedicated workshops**
- Involving **patients at all levels**
- Providing **forum for discussion**

✓ IMI best practice examples:

EUPATI

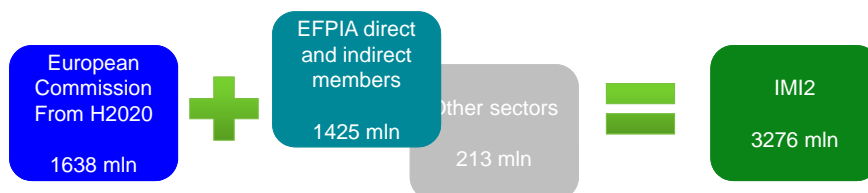
U-BIOPRED

PROactive



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IMI 2 – building on successes of IMI1



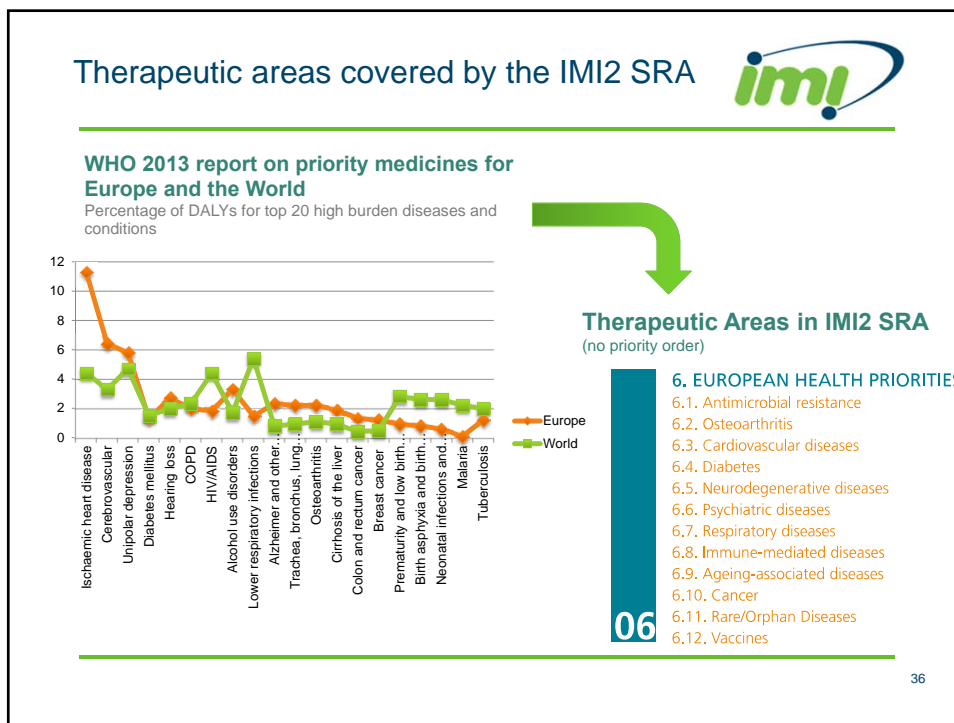
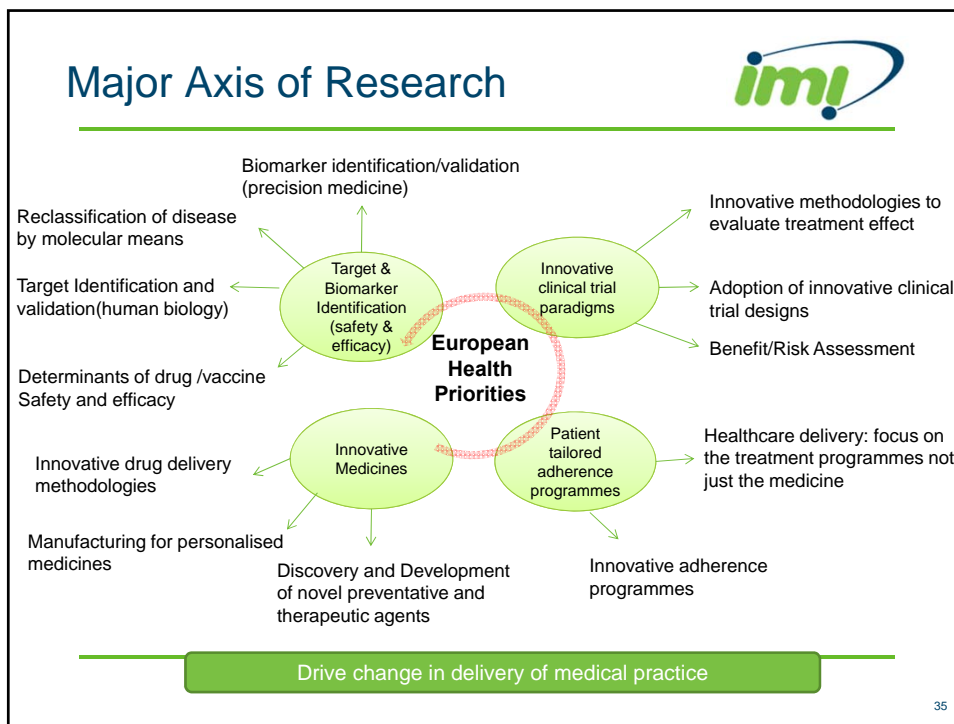
- Focused: **stratified medicines** and healthcare priorities
- Healthcare solutions: prevention and treatment
- **End-to-end**: R&D, regulatory and access – move integration a step further
- Multi-sector: **within and beyond life sciences**

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Objectives – extract from IMI2 Regulation

- Increase the success rate in clinical trials
- Reduce the time to reach clinical proof of concept in medicine development
- Develop new therapies for diseases for which there is a high unmet need and limited market incentives
- Develop diagnostic and treatment biomarkers for diseases clearly linked to clinical relevance and approved by regulators;
- Reduce the failure rate of vaccine candidates in phase III clinical trials through new biomarkers for initial efficacy and safety checks;
- Develop tools, standards and approaches to assess efficacy, safety and quality of regulated health products.

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7 priority themes and enablers resulting in 6 SGGs + 1 CSA



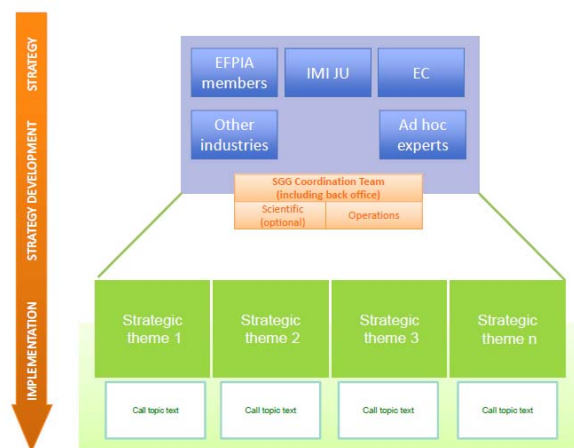
IMI2 scientific programme: the need for focus

Therapeutic Areas and Cross-cutting Themes	Differentiating Enablers for all themes
<ol style="list-style-type: none"> 1. Neuro-degeneration <ul style="list-style-type: none"> • Successfully prevent and treat dementia and other neurodegenerative diseases 2. Prevention and treatment of immune-mediated disease <ul style="list-style-type: none"> • Advance immunological understanding to deliver new treatments and develop new and better vaccines for non-infectious diseases 3. Metabolic disorders <ul style="list-style-type: none"> • Tackle all phases of disease and its complications, including prevention and early interception 4. Infection control <ul style="list-style-type: none"> • Address multidrug resistance and create incentives for reinvestment (including antimicrobials, antivirals, vaccines) and develop new and better prophylactic vaccines 5. Translational Safety <ul style="list-style-type: none"> • Identification of predictors of safety and development of point of care for safety biomarkers and development of new human biology platform to predict toxicity and safety during early drug development 	<p>Towards early and effective patient access to innovative prevention and treatment solutions (Medicines Adaptive Pathways to Patients):</p> <ul style="list-style-type: none"> • Target validation based on human biology • Stratified medicine, precision medicine • Innovation in clinical trials • Data generation and interpretation (knowledge management) • Prevention, disease interception, patient adherence (incl. societal acceptance of vaccines) • Effect on medical practice and outcomes (health/disease management) • Regulatory framework (including pharmacovigilance) • Patient access

- * Neuro-degeneration
Leads: Janssen, Lilly, Abbvie
- * Immune-Mediated diseases
Leads: GSK
- * Metabolic Disorders (incl diabetes)
Leads: Sanofi, Lilly, Servier
- * Translational safety
Leads: Sanofi, Bayer, Janssen, Novartis
- * Data and Knowledge Management
Leads: Janssen, Pfizer
- * **Medicines Adaptive Pathways to Patients (CSA)**
Leads: Amgen, Janssen
- * Infection control
Leads: AstraZeneca

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Composition / Structure of a SGG



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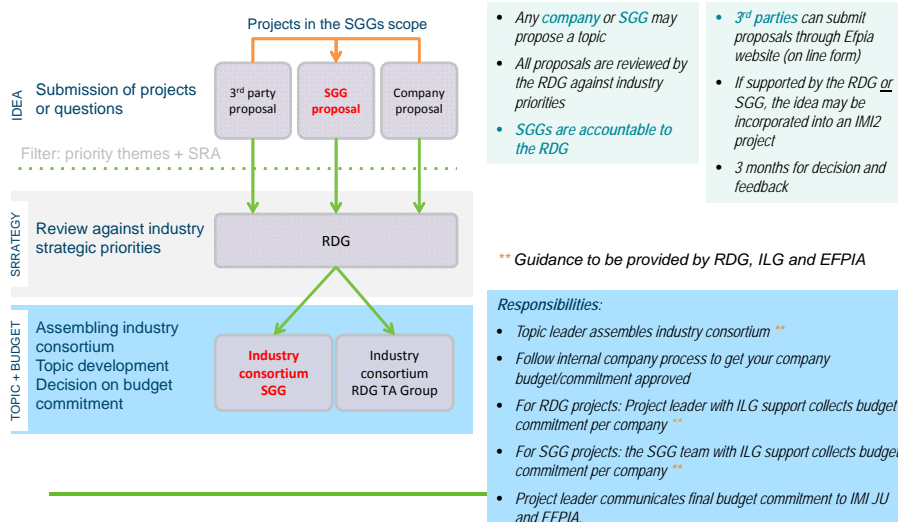
Expected outputs of SGGs



- Improvement of internal processes for getting commitment and speeding up the idea maturation process
- Coordinated strategic approach within and across portfolios of existing projects and programmes
- Coherent planning and exploitation of results
- Structure for review and integration of proposals from industry and third parties
- Interacting as appropriate with other sectors and key stakeholders

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From idea to topic and budget



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Data Knowledge Management SGG

- Status update of implementation
 - Leading companies: Janssen, co-leading company: Pfizer
 - Participating companies: Astellas, AZ, Bayer, Daiichi-Sankyo, Genzyme, GSK, Grünenthal, Merck, Novo Nordisk, Roche, Sanofi, Servier, UCB
 - Full SGG Kick Off Meeting held Sept 3 & Sept 4 (representatives of 13 companies)
- Mission /scope /indication on strategic plan/ research priorities/ programme of work/ project ideas
 - (1) DKM - Diseases & Mechanisms
 - (2) DKM - (Therapeutic) Development Optimization
 - (3) DKM - Enabling Platforms
 - a) research informatics
 - b) translational informatics
 - c) real world data
 - d) adaptive informatics
 - e) digital business
 - (4) DKM - Sustainability & data governance (both for IMI 1 and IMI 2 projects)

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Data Knowledge Management SGG

DKM - Diseases & Mechanisms

Target / biomarker identification

- That all new projects with a Disease or Biomarker focus have access to a common toolset or process in order to prosecute their projects most effectively and ensure that in the future duplicative platforms are not developed.
 - Is this something we desire?
 - How do we engage with new projects?
 - How do we describe what we mean to new project leads?
 - How do we effectively understand what a new project intends to do? (especially if there are many projects coming forward)
 - What does success look like?

Sustainability & Data Governance Mission

- ★ Most projects generating data in IMI1 did not plan for data preservation, storage, sharing and secondary use
 - ✦ Develop and implement sustainable data archiving strategy
- ★ Ensure that good data governance are part of the plan for IMI2 projects
 - ✦ Develop "good data governance" principles and ensure their implementation in new projects

DKM - (Therapeutic) Development Optimization

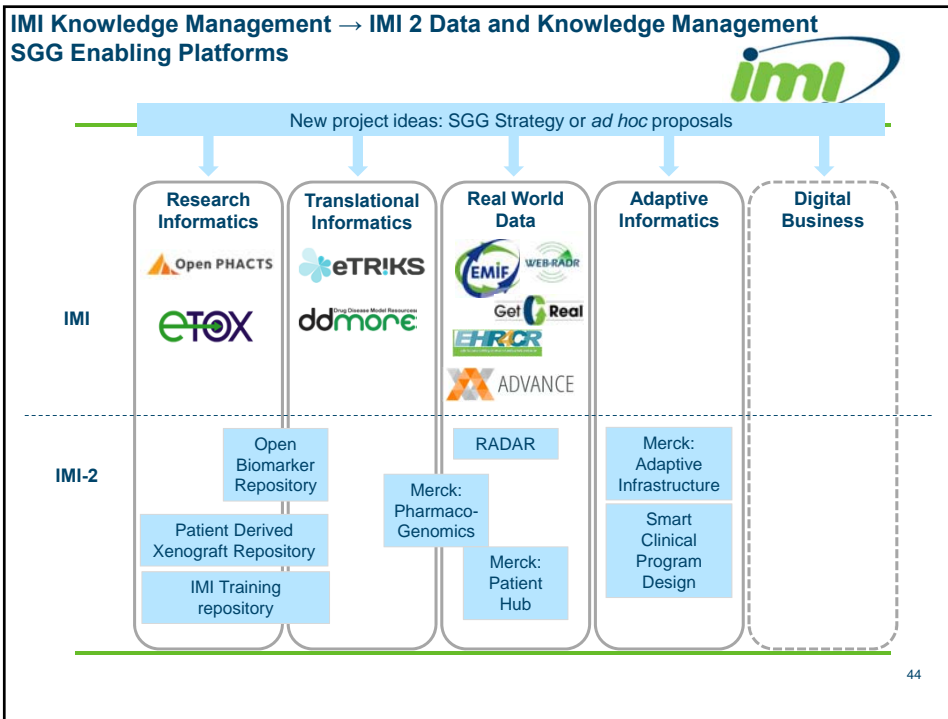
- What informatics, approaches, design, methodologies,... are needed to deal with challenges wrt characterization of populations, identification of patients, recruitment, etc

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DKM platforms: So some opportunities...



- What does Data & Knowledge Management look like in 2020?
- What trends are going influence out platforms :
 - Externalisation
 - Patient centricity
 - Adaptive pathways
 - New data types
 - Systems/Network biology
 - Stratified medicines
 - ??
- How do we take advantage of this to develop the platforms of the future



Challenges in Managing Chronic Disease Today



- Physician visits are **time-limited evaluations** based on **subjective observations** of both the patient and the physician or psychiatrist



- Changes in disease state** for each of these diseases can occur on timescales **much shorter than the interval between physician visits**



- Through technological advances over the last decade it is now possible to **objectively, remotely, and continuously** measure aspects of patient **physiology, behavior and symptoms**



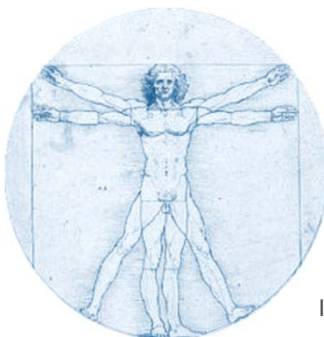
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Emerging Technology for Continuous Patient Assessment



Physiology

- ECG
- HR/HRV
- Respiration
- Skin temp
- Activity/Sleep
- O2 sat



Behavior

- GPS
- Talk patterns
- Text patterns
- Activity/Sleep




Symptoms

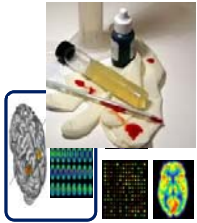
- IVR
- Smartphone
- Symptom assessment



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Escalating Data Challenge: From Discrete Information Events To.....






Discrete Centralized

- > 'Point-of-Facility'
- > Discrete, Structured, Information Events
- > Controlled Populations (clinical trials, longitudinal disease studies)



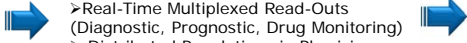
Discrete Decentralized

- > 'Point-of-Need'
- > Real-Time Multiplexed Read-Outs (Diagnostic, Prognostic, Drug Monitoring)
- > Distributed Populations in Physician Settings




Non-Discrete Decentralized

- > Semi-Continuous
- > Semi-Structured data
- > Multiple sources




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...Continuous Streams of Information 'Quantification of Man'




Social Media

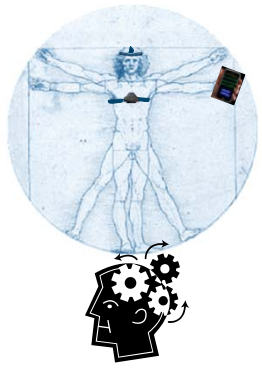


Mobile Computing Devices



Remote Monitoring Sensors





Brain Fitness Centers

New Data Types, New Tools for:

- Information Extraction
- Knowledge Representation

Integration Mining

On-Patient

- Actigraphy
- Speech
- Eye movement
- EKG, HR, HRV
- EEG
- Sleep
- Galvanic skin response
- O2 Sat
- Skin temperature

Off-Patient

- Fixed cameras
- Bed embedded sensors
- Computer usage
- Phone usage
- Refrigerator usage
- Motion sensors

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Remote Assessment of Diseases And Relapse (RADAR) - AIMS



- **Develop and validate the science of using bio-signatures to characterise disease** and predict changes in disease state **through observational studies** *(basic clin research)*
- Encourage innovation and development of **novel biosensors** and the associated **knowledge management** technology *(basic tech research)*

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Remote Assessment of Diseases And Relapse (RADAR) - AIMS



- Understand the **regulatory and patient pathways** for using remote assessment in healthcare *(MAPPs principle)*
- Develop standards for Information Exchange that enable **seamless integration** of sensor, data capture, data management, & analysis technologies *(IT/tech research)*

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Topic – CNS



- The aim of **RADAR-CNS** is the characterisation and prediction of changes in disease state in central nervous system (CNS) disorders via non-invasive remote sensing.
- There is a focus on **Multiple Sclerosis and Epilepsy** (*possibly Pain in next call*) all with a common **comorbidity in depression**.
- For each disease a non-interventional/observational study of subjects is undertaken with three objectives:
 - *Characterisation of changes in disease state*
 - *Characterisation of changes in disease state due to drug effects*
 - *Prediction change in disease state from remote sensing data*
- Across all three disease areas, a common set of measures and measurements tools is used to track:
 - sleep architecture, physical activity, speech, cognition**
 - social connectivity, memory of subjects**

Example: Technology Correlates to Clinical Parameters



EWSQ 10 Patient Version	Potential Technology Correlates
Has your sleep worsened since the last evaluation?	Sleep EEG (iVigil) Actigraphy (Hidalgo)
Has your appetite decreased since the last evaluation?	
Has your concentration, e.g., ability to read or watch TV, worsened since the last evaluation?	Eye tracking Computer tracking (Monarca)
Have you experienced fear, suspiciousness, or other uneasy feelings while being around people since the last evaluation?	Skin Conductance (Hidalgo) Heart rate / variability (Hidalgo) Cell phone location (Monarca)
Have you experienced increased restlessness, agitation, or irritability since the last evaluation?	Actigraphy (Hidalgo) Galvanic Skin Response (Hidalgo) Speech Analysis (Hidalgo/IBM)
Have you noticed that something unusual or strange is happening around you since the last evaluation?	
Have you experienced loss of energy or interest since the last evaluation?	Actigraphy (Hidalgo) Computer Tracking (Monarca)
Has your capability to cope with everyday problems worsened since the last evaluation?	Speech Analytics (Hidalgo/IBM)
Have you experienced hearing other people's voices even when nobody was around since the last evaluation?	
Have you noticed any other of your individual early warnings signs since the last evaluation?	

RADAR - IMI Scientific Workshop

Topic – Diabetes



The goal of **RADAR DIABETES** is to stimulate innovation in technologies that can help patients manage diabetes.

- In the case of diabetes, patient care already takes advantage of home based glucose monitoring devices to help patients control their disease. However this requires patients to use, on a daily basis, an invasive and painful blood test.
- The research challenge in diabetes management is to provide next generation of tools and technologies that can potentially improve a patient's ability to self-manage to reduce serious diabetic events such as hypoglycaemia.

Examples of innovative technologies could be:

- **Bio-sensors** which help to close the loop between patient activities and diabetes control
- **Algorithms** which help predict short term events such as a hypoglycemic event, or long term events such as a complication
- **Technologies** helping patients to modify their lifestyle behavior (diet, exercise, medication adherence)

- The project will focus on technology innovation as well as on structural enablers to implement innovative solutions in clinical practice.
- In particular the regulatory and legal frameworks for the use of bio-sensors, predictive algorithms and engagement technologies will be addressed.

Possible Future Topic – Respiratory: COPD

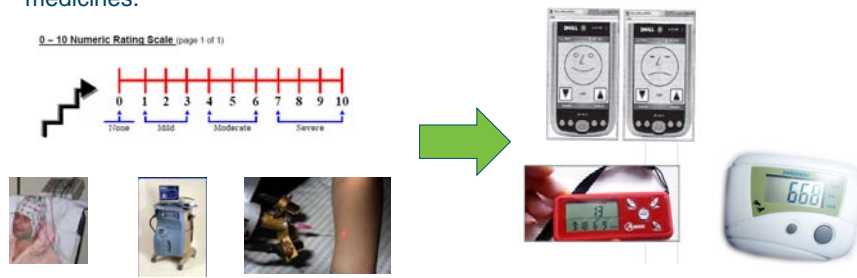


- Management of patients in a “real world setting”, with an aim of utilising **novel monitoring** (mobile or device centric) **technology** to help patients better manage their condition, including ability to forward predict changes in asthma control or COPD exacerbation risk.
- A **platform** to securely acquire & perform analytics on **data** in a real world setting and develop measures of real world effectiveness, including **regulatory pathways** for acceptance of the measures in development of new medicines.
- The development of a **device** (e.g. modified inhaler) that provided measurement and recording of parameters such as lung function, exhaled gases and medication use
- Capability to measure and monitor key **digital biomarkers**, with a flexible platform for future proofing of the device, such that it is capable of measuring new digital biomarkers as they become appropriate.
- The objective would be the ability to target the right drugs to the right patient, and to deliver the appropriate amount of drug to control the disease.

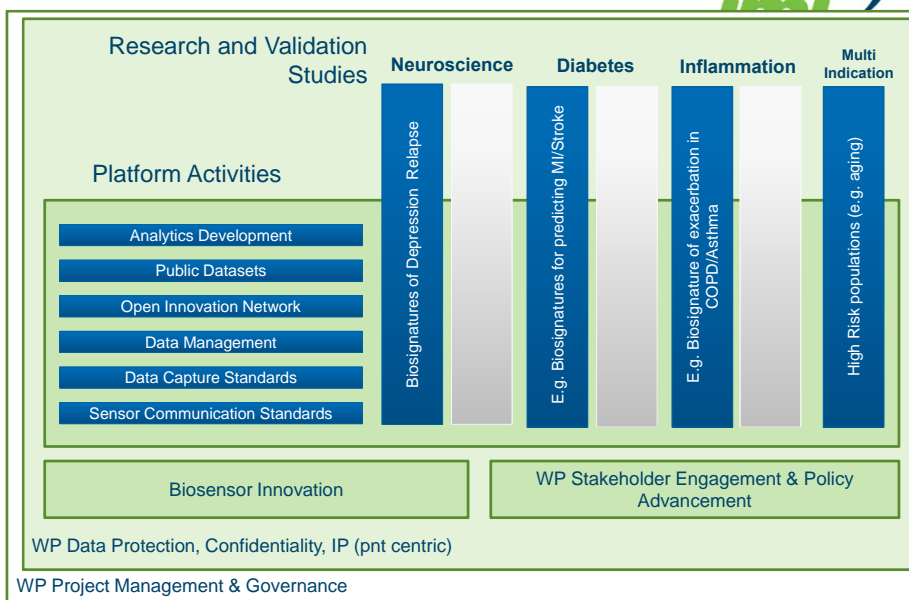
Possible Future Topic – Chronic Pain



- Management of patients in a “real world setting”, with an aim of utilising **novel monitoring** (mobile or device centric) **technology** to help patients better manage their condition, including ability to forward predict changes in pain conditions and measure QOL.
- A **platform** to securely acquire & perform analytics on **data** in a real world setting and develop measures of real world effectiveness, including **regulatory pathways** for acceptance of the measures in development of new medicines.



RADAR– Vision



IMI2: The First Call



Translational approaches to disease modifying therapy of type 1 diabetes mellitus (T1DM)

Magda.Gunn@imi.europa.eu

Discovery and validation of novel endpoints in dry age-related macular degeneration and diabetic retinopathy

Nathalie.Seigneuret@imi.europa.eu

Submission date: 12 November 2014

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Planned Calls for proposals



IMI 2 – Call 2 Seven topics are subject to this final consultation (with RDG, SRG and EC)

<http://www.imi.europa.eu/content/future-topics>

Call scheduled for launch: December 2014

Topics ^a
1. RADAR: Remote assessment of disease and relapse ^a
2. Assessing risk and progression of prediabetes and type 2 diabetes to enable disease modification ^a
3. Towards a quantitative biological approach for neuropsychiatry ^a
4. The consistency approach to Quality Control in vaccine manufacture ^a
5. Patient Knowledge Repository to enable Patient Focused Medicine Development ^a
6. Pertussis vaccination research ^a
7. Enabling platform on Medicines Adaptive pathways to patient (MAPPs): Coordination and Support Action ^a

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Working together.



...to meet unmet medical needs

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This slide features a central blue globe with a white grid. Surrounding the globe is a ring of 20 circular portraits of diverse individuals of various ages and ethnicities. The text 'Working together.' is at the top left, and '...to meet unmet medical needs' is to the right of the globe. A green horizontal line is at the bottom.



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The slide shows the 'imi!' logo in the top right corner. Below it is a cartoon illustration of five people (three men and two women) sitting around a rectangular table in a meeting. One man is pointing upwards while speaking. The others are listening or looking at papers on the table. A green horizontal line is at the bottom.