Highlights from IMI diabetes portfolio – paving the way for precision medicine and disease modifying therapies

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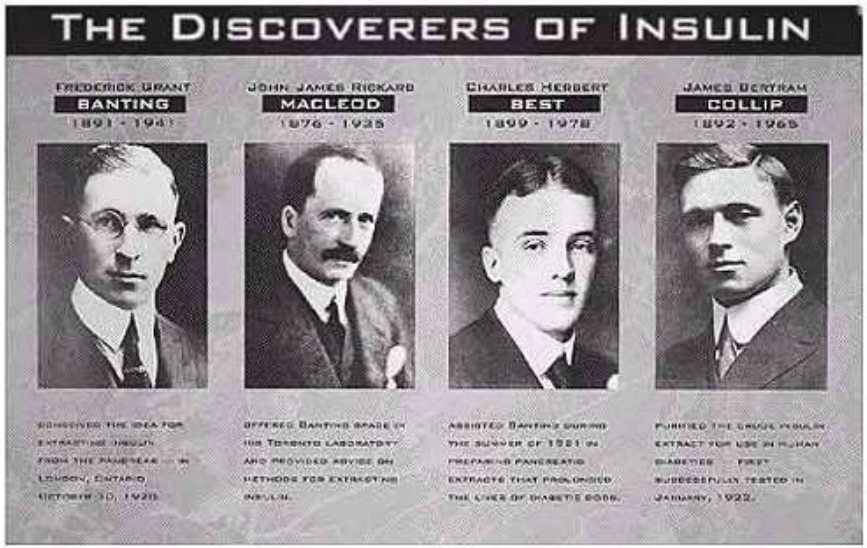
IMI Impact on Diabetes

innovative medicines initiative

Disclosures

CM serves or has served on the advisory panel for Novo Nordisk, Sanofi, Merck Sharp and Dohme Ltd., Eli Lilly and Company, Novartis, AstraZeneca, Boehringer Ingelheim, Roche, Medtronic, ActoBio Therapeutics, Pfizer, Insulet and Zealand Pharma. Financial compensation for these activities has been received by KU Leuven; KU Leuven has received research support for CM from Medtronic, Novo Nordisk, Sanofi and ActoBio Therapeutics; CM serves or has served on the speakers bureau for Novo Nordisk, Sanofi, Eli Lilly and Company, Boehringer Ingelheim, Astra Zeneca and Novartis. Financial compensation for these activities has been received by KU Leuven.

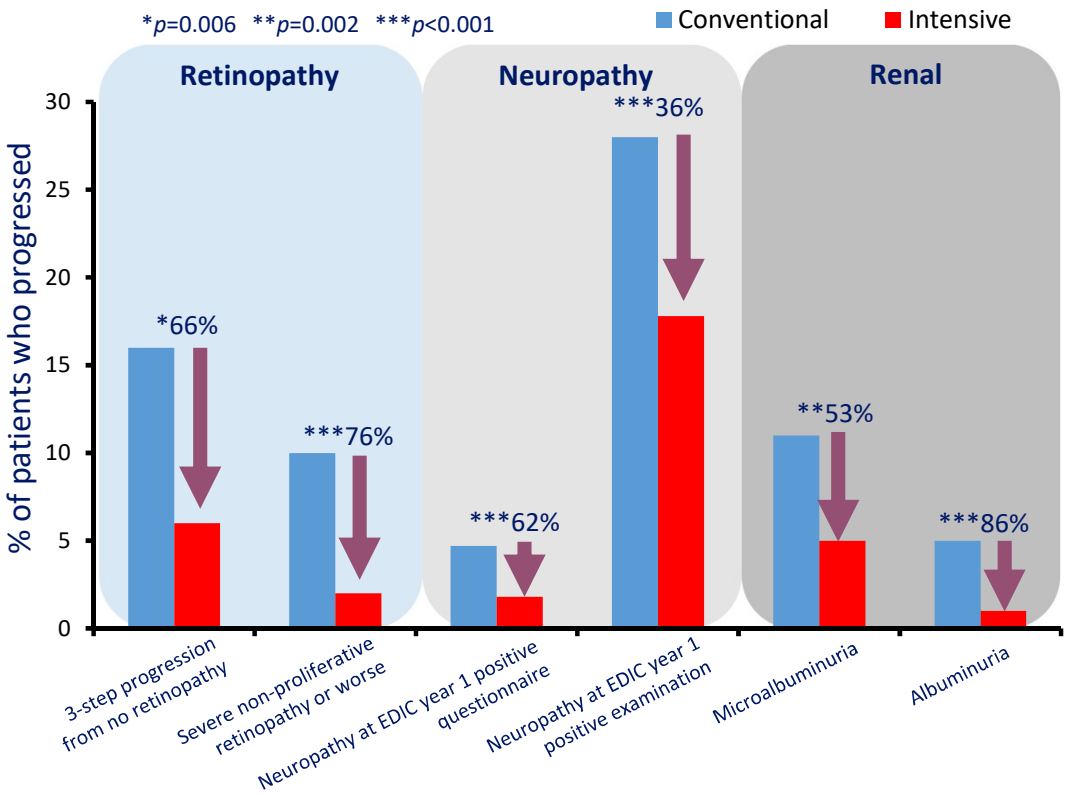
We have come a long way……in 100 years….



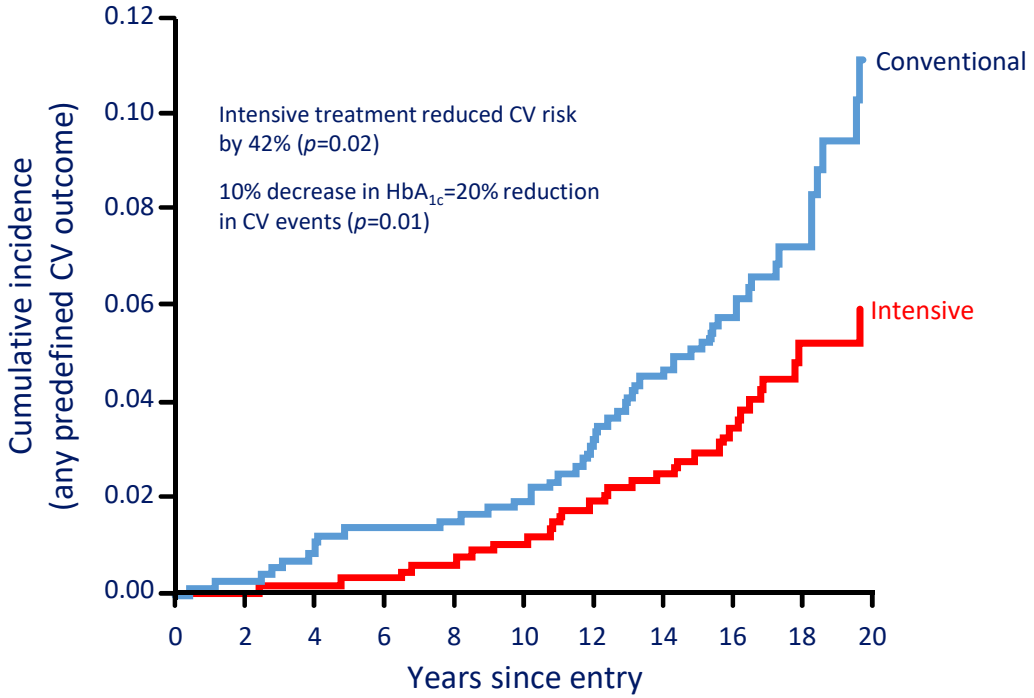
Intensive vs. conventional treatment in T1D

DCCT/EDIC follow-up data – intensive treatment yields long-term benefits

Glycaemic control and microvascular complications[1,2]



Intensive glycemic control and macrovascular complications[3]



CV, cardiovascular; DCCT, Diabetes Control and Complications Trial; EDIC, Epidemiology of Diabetes Interventions and Complications; T1D, type 1 diabetes

1. DCCT/EDIC Group. *JAMA* 2002;287:2563–9; 2. Martin *et al. Diabetes Care* 2006;29:340–4; 3. Nathan *et al. N Eng J Med* 2005;353:2643–53

Achieving glycemic control

Insulin

Exercise

Stress

Food

Stress

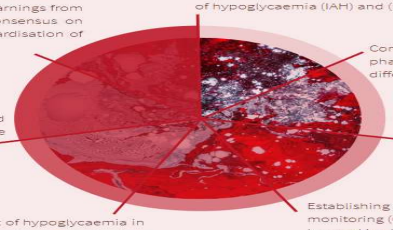
Hypoglycemia

Severe H
and Long

HYPO RESOLVE

The project | Concept & Approach | Network | People with Diabetes | News & Events | Publications

In detail, the Hypo-RESOLVE consortium will address the following challenges



- Establish a dialogue with regulators and other stakeholder about hypoglycaemia in general and more specifically the learnings from the Hypo-RESOLVE project in order to develop a consensus on definitions and data collection methods for the standardisation of clinical in-vestigations with regard to hypoglycaemia
- Conducting integrated non-clinical and translational studies to identify underlying molecular mechanisms, consequences and biomarkers of impaired awareness of hypoglycaemia (IAH) and (recurrent) hypoglycaemia.
- Combining large datasets obtained from various pharmaceutical/technology companies using different methods of data capture
- Undertake health economic analyses which extend beyond severe hypoglycaemia and will measure the economic impact of hypoglycaemic episodes
- Conducting extensive statistical analyses in large data sets to confirm existing predictors and consequences of hypoglycaemia and identify new associations
- Determine the psychological impact of hypoglycaemia in people with diabetes and family members, and develop patient related outcome (PRO) measures, which reliably assess the psychological impact of hypoglycaemia and can be included as standard outcome measures in future clinical trials, both commercial and academic
- Establishing how the vast potential of continuous glucose monitoring (CGM) systems as clinical and research tools, can be used in clinical practice and incorporated successfully in future clinical trials

HYPO RESOLVE

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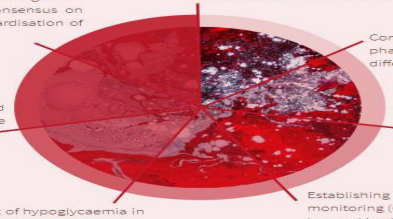

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QoL= quality of life.

1. Frier BM. *Nat Re*
4. Cryer PE. *Diabe*

imi innovative medicines initiative | efpia | JDRF | HELMSLEY

Can you make it go away?

INNODIA and INNODIA HARVEST: Public Private Partnerships for T1D in Europe

www.INNODIA.eu

Helmsley
JDRF
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John Todd, UOXF, Oxford
Linda Wicker, UOXF, Oxford
Chris Wallace, UCAM, Cambridge
Adrian Mander, CU, Cardiff
Colin Dayan, CU, Cardiff
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Tim Tree, KCL, London
Noel Morgan, UNEXE, Exeter
UK Biobank
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NovoNordisk
Lilly
Imcyse
Sanofi
Novartis
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Michele Solimena, TUD, Dresden
Thomas Danne, HKA, Hannover
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Thomas Pieber, MEDUNI-GRAZ, Graz
Tadej Battelino, ULI, Ljubljana
Francesco Dotta, UNISI, Siena
Piero Marchetti, UPI, Pisa
Francesco Chiarelli, UD'A, Chieti
Emanuele Bosi, UniSR, Milan
Stefano Cianfarani, OPBG, Rome
+ Satellites in different countries
Belgium: 6
UK: 21
Austria: 1
France: 12
Germany: 3
Italy: 1

Objectives of INNODIA

1. To develop an **EU infrastructure** for the recruitment, detailed clinical phenotyping and bio-sampling of a large cohort of newly diagnosed subjects with T1D and at risk family members, generating an **unrivalled bioresource of T1D discovery science**.

2. To establish a tight **collaborative network of basic and clinical researchers** working in a coordinated and focused way to address key knowledge gaps in relation to b-cell autoimmunity, leading to a better understanding of the pathogenesis of T1D and a cure for this disease. Research will focus on the question why the immune system loses tolerance towards the b-cell, the dialogue between b-cells and the immune system and which b-cell pathways contribute to its dysfunction and death in T1D.

3. To advance the **development and application of novel methodologies** by exploiting our major strengths in bioresource and 'omics' technologies.

4. To establish a **unique integrated database** assimilating historical data, with data from clinical and experimental sources. This will permit bioinformatics-assisted visualization and modelling of interactions between phenotype, genetic, immune and metabolic pathways to explore subtypes, potentially redefining ontogeny of T1D in the context of prevention and intervention strategies.

5. To conceive **innovative clinical trial designs** that exploit novel validated biomarkers allowing better subject stratification and functioning as surrogate endpoints, thus yielding shorter and more focused intervention studies of single or combined therapies.

INNODIA

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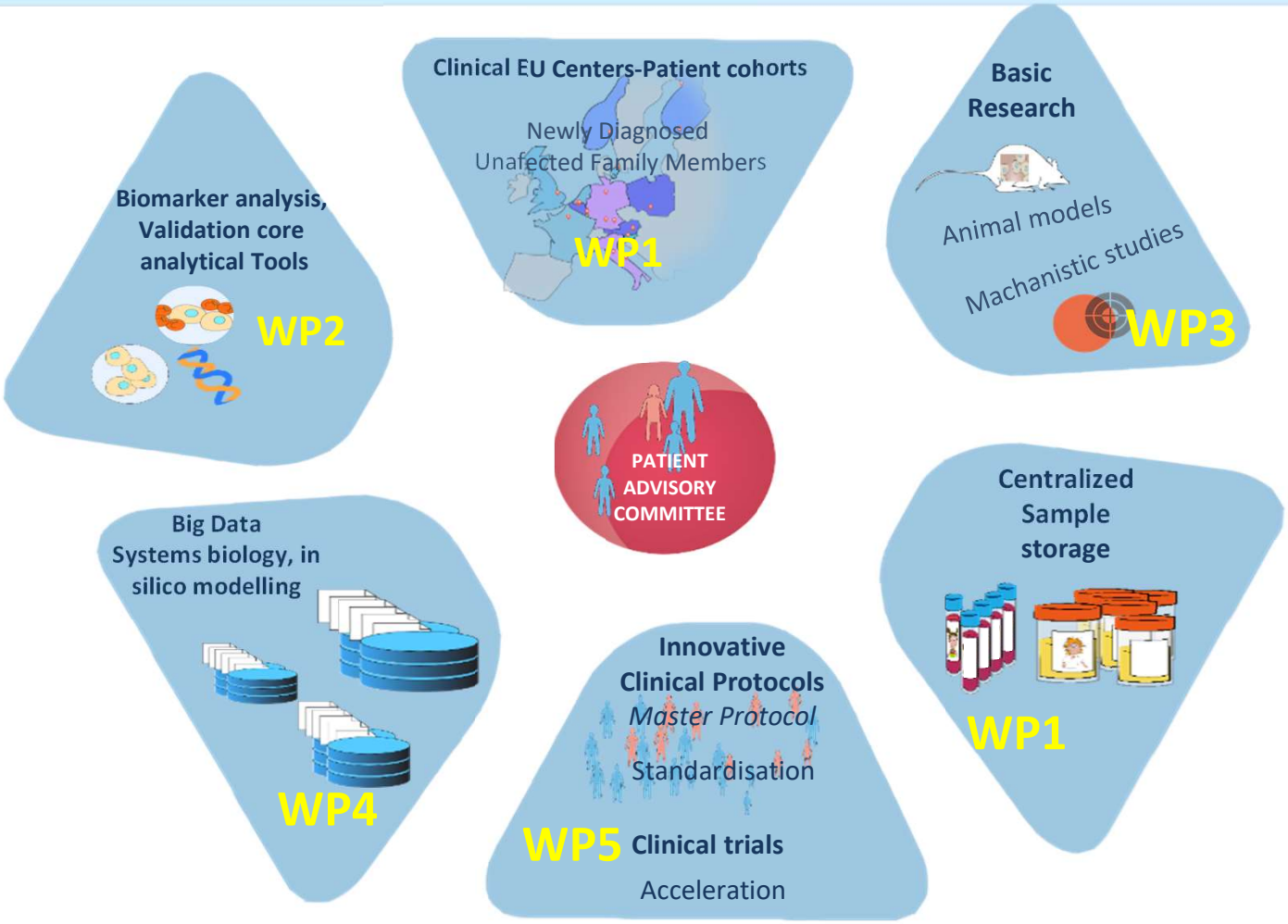
Organisation of INNODIA



INNODIA

„OF THE PEOPLE, living with T1D

„BY THE PEOPLE, living with T1D

„FOR THE PEOPLE, living with T1D

INNODIA PAC Members

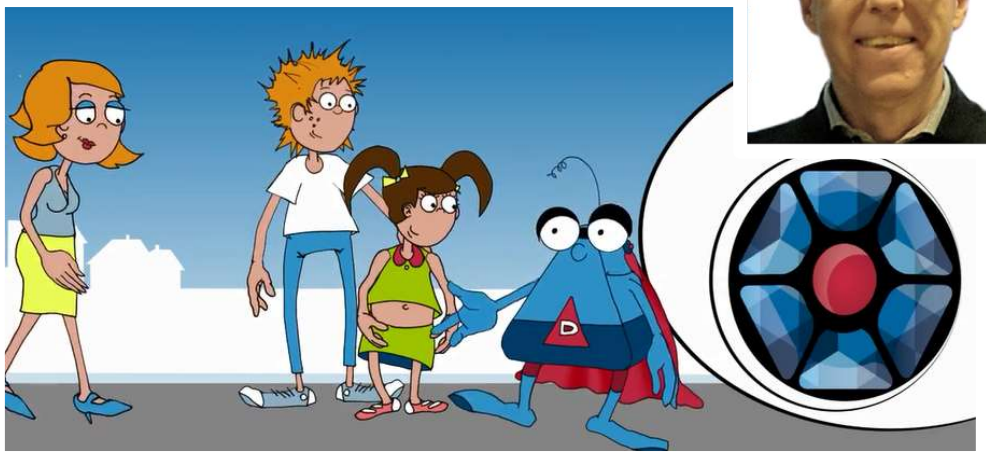
Anders

Johan

Veerle

Nathalie

Jaivir



Olivier

Finn

Markku

Kyle

Jente and Dries

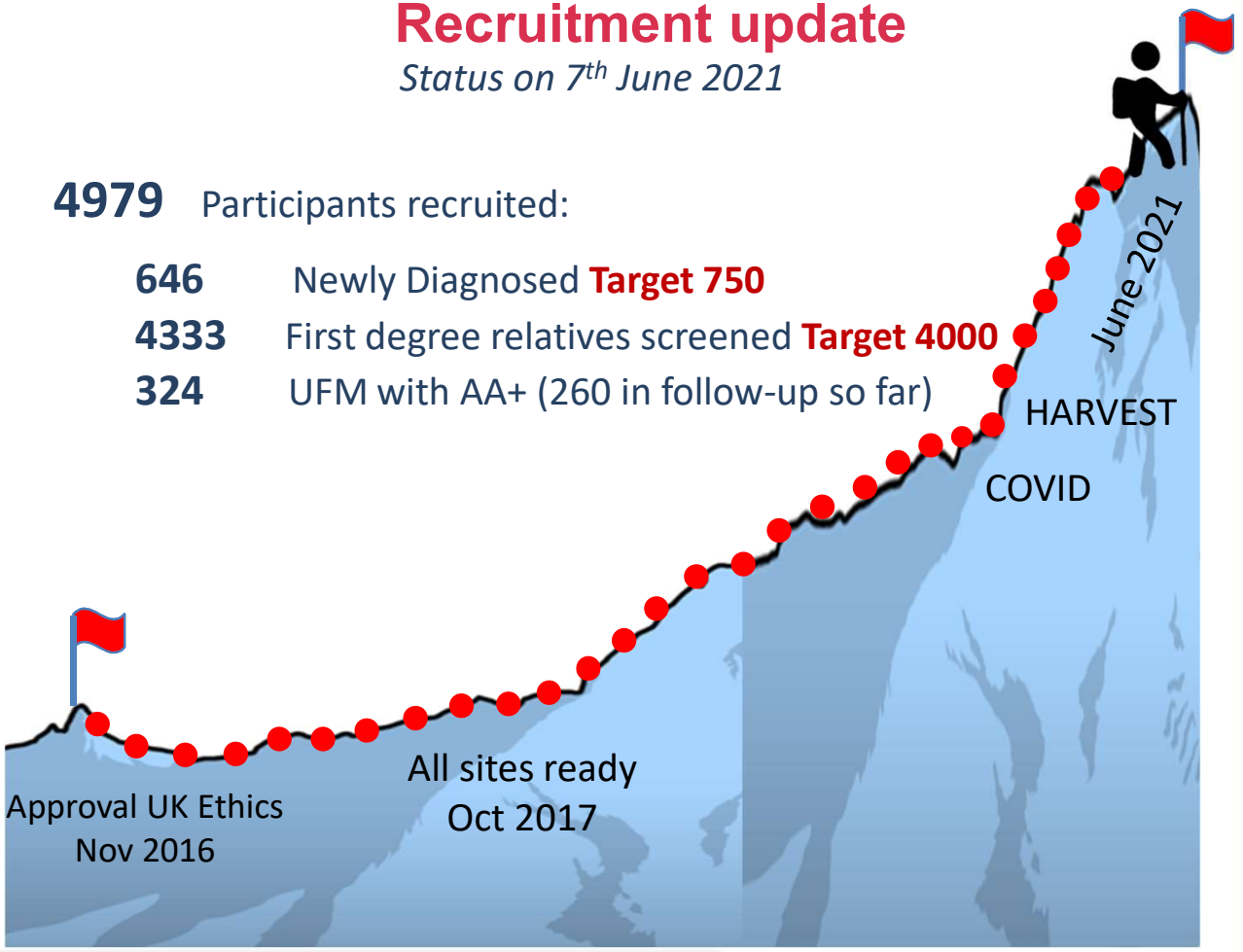
INNODIA Clinical samples collection

Recruitment update

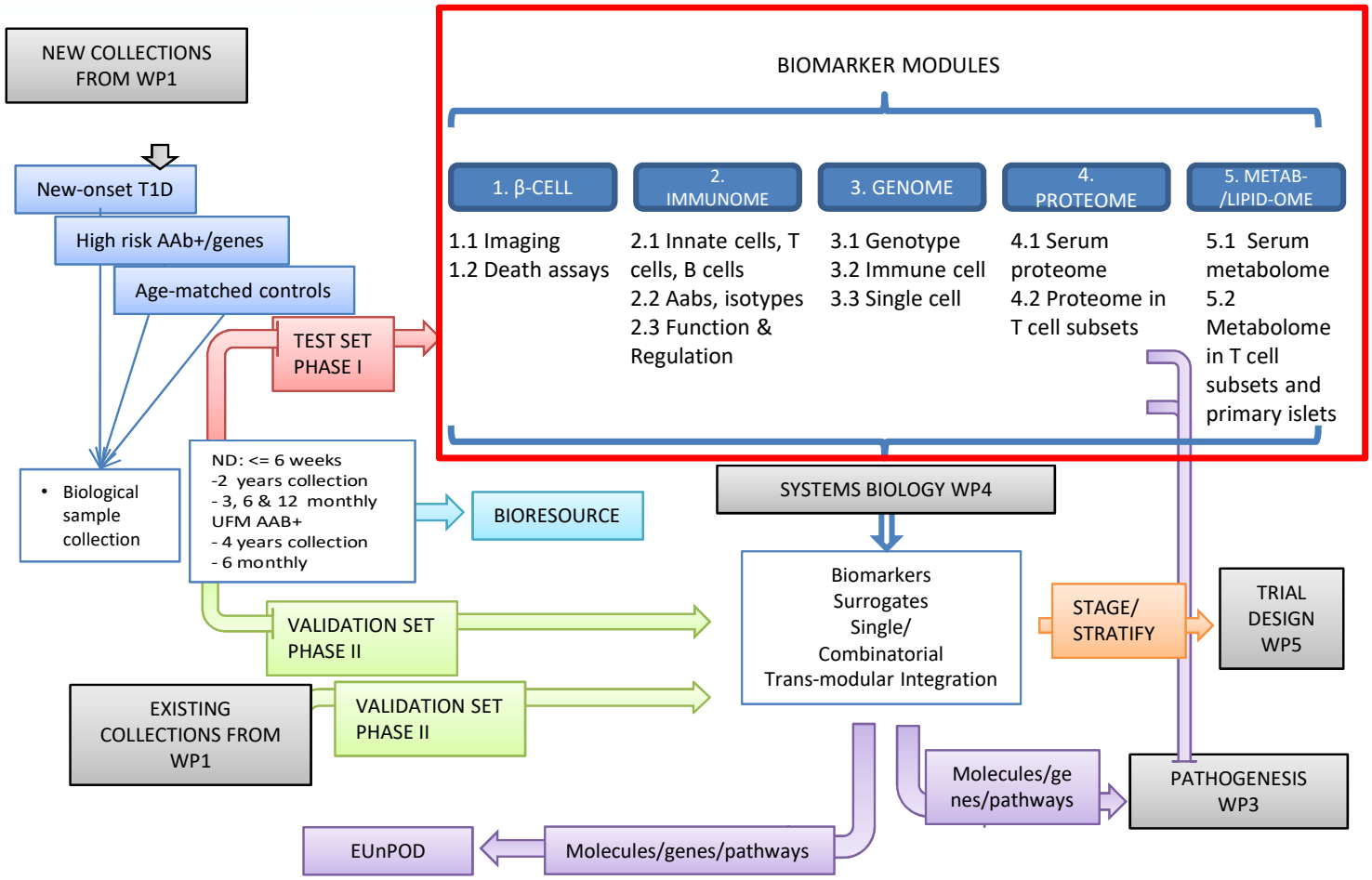
Status on 7th June 2021

4979 Participants recruited:

- **646** Newly Diagnosed **Target 750**
- **4333** First degree relatives screened **Target 4000**
- **324** UFM with AA+ (260 in follow-up so far)



Biomarker discovery



Sample transport and dispatching

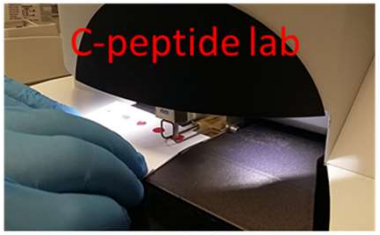
PEDIATRIC DIABETES RESEARCH GROUP

UNIVERSITÀ DI SIENA 1240

Steno Diabetes Center Copenhagen

UNIVERSITY OF TURKU

UNIVERSITY OF CAMBRIDGE



NIHR | National Institute for Health Research

wellcome centre human genetics

JDRF/Wellcome Trust DIL

biocentre
The centre for biomedical services

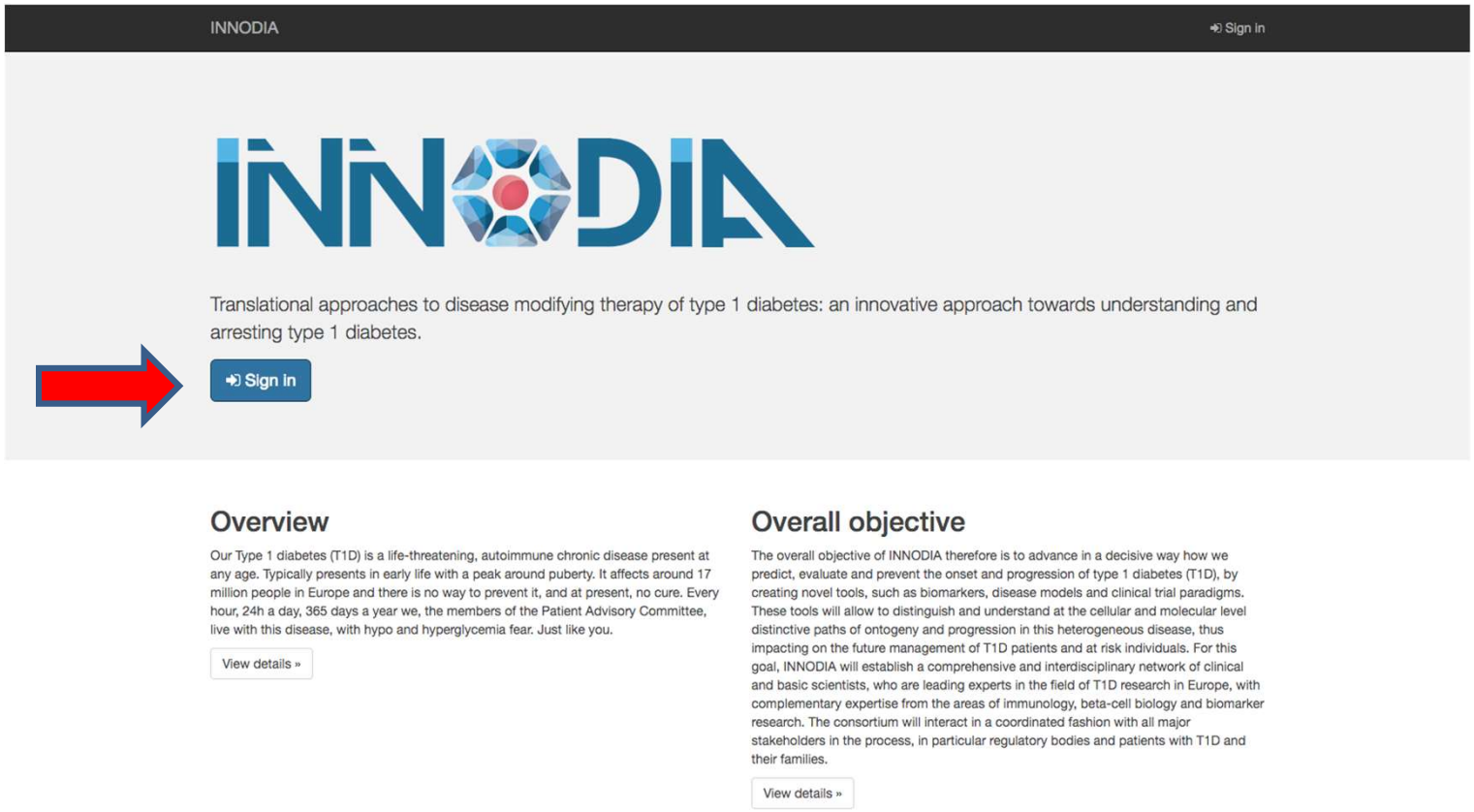
imi innovative medicines initiative

efpia

JDRF

HELMSLEY

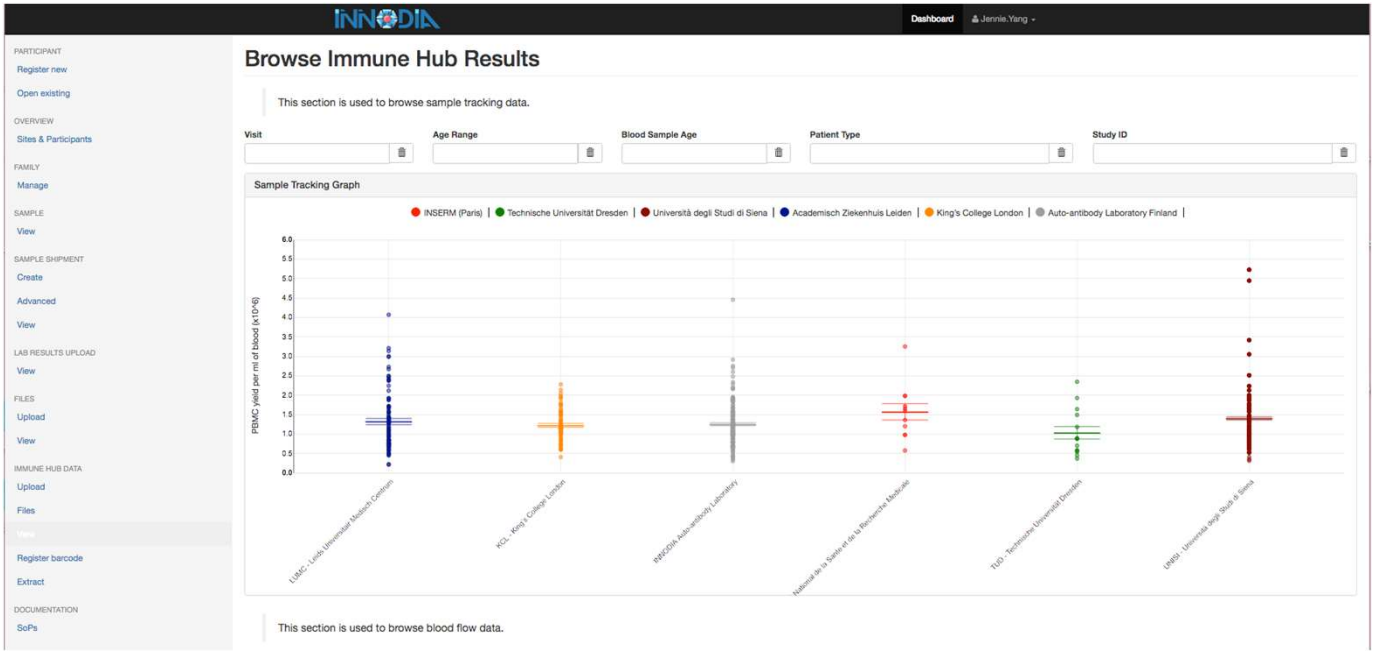
Central database



Real Time Quality Control

Can change filters to display what you would like to see

View



Whole blood flow data is shown below the graph for PBMC yield.

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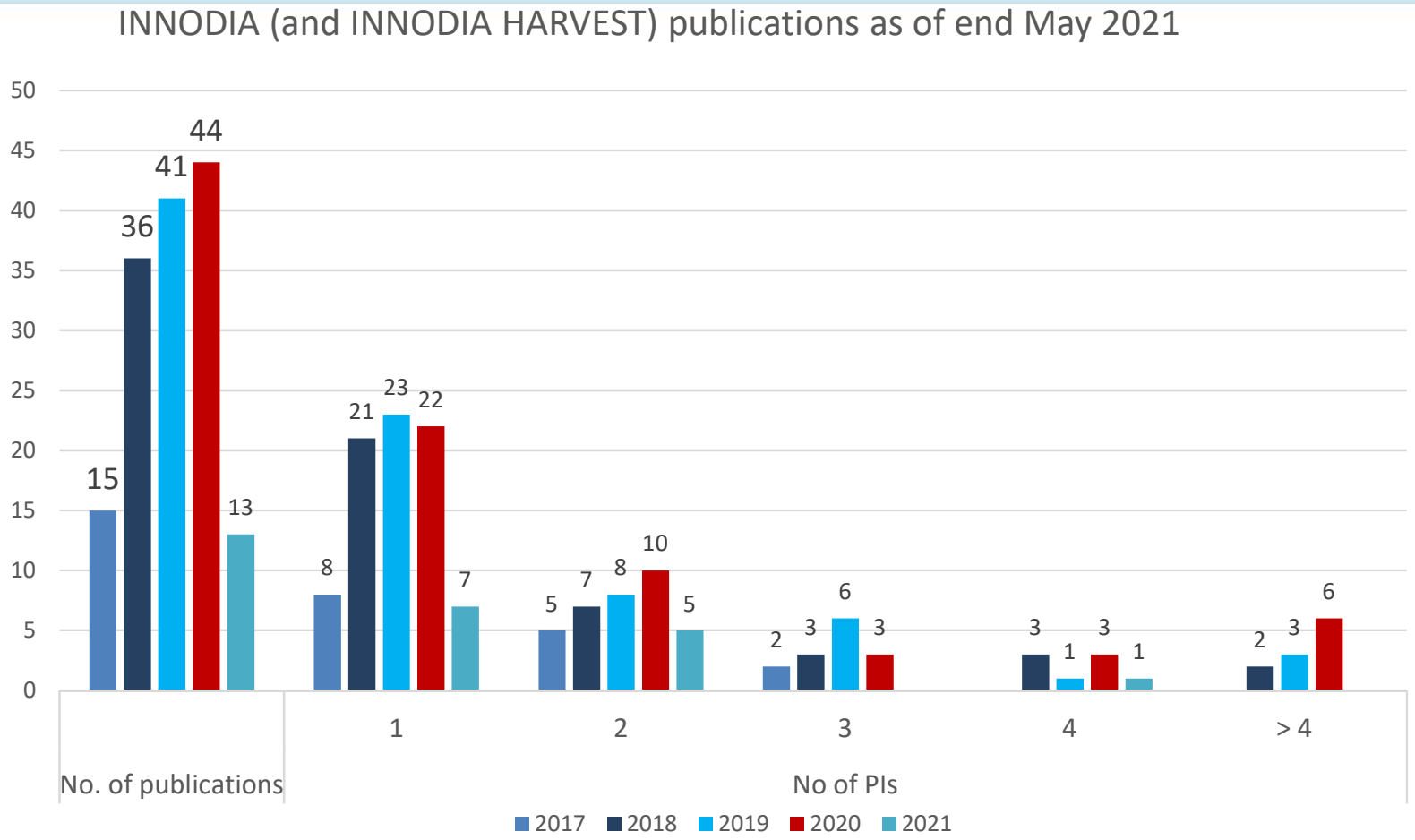
INNODIA and INNODIA HARVEST publications (as of end May 2021)



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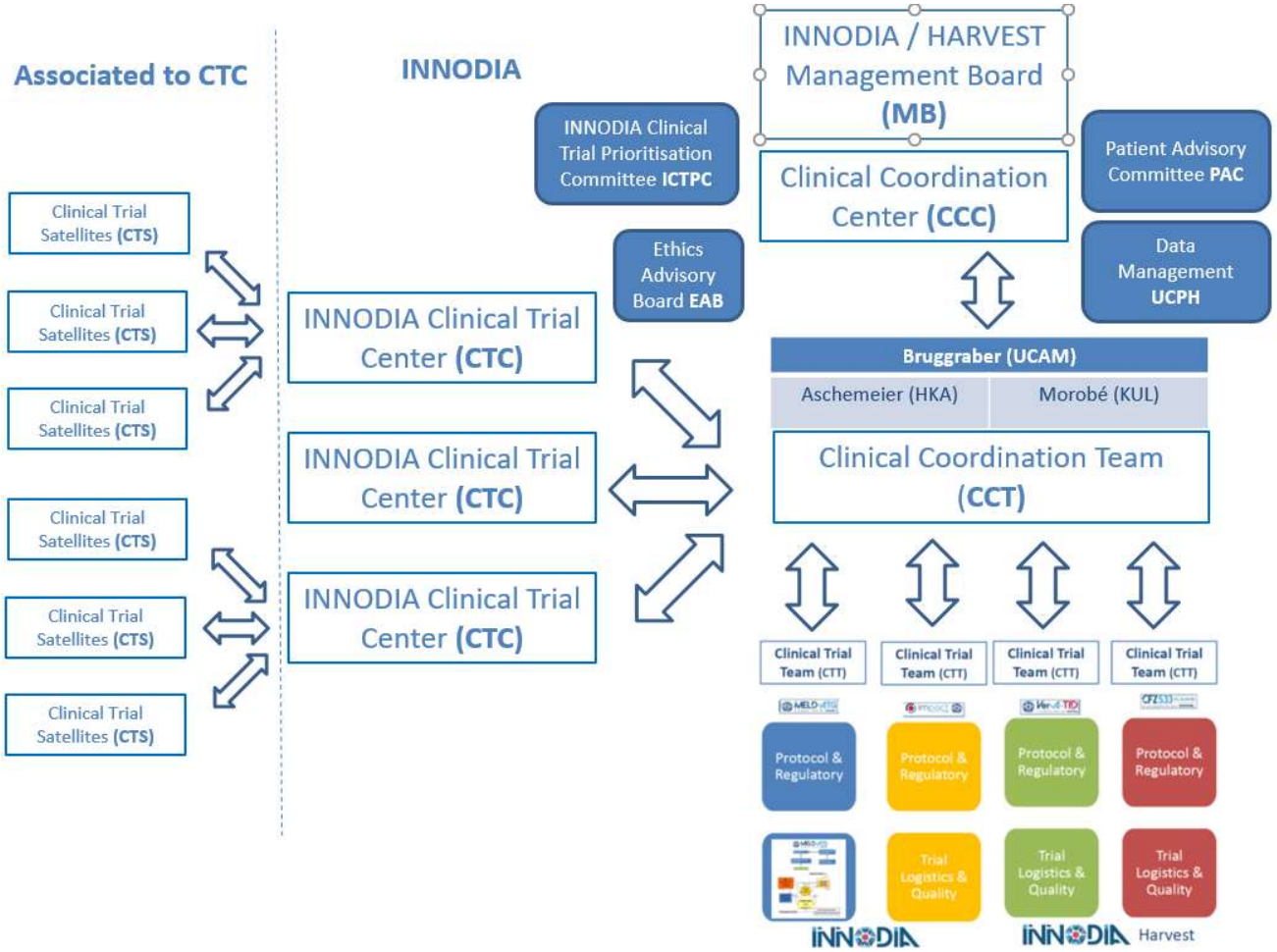
Coordination of Clinical Trials in INNODIA and INNODIA HARVEST



Clinical Coordination Centre (CCC)

- Structure for overall trial coordination

Clinical Coordination Team (CCT)

- Day-to-day managing of the trial network

Status clinical trials (June 7th 2021)

	MELD ATG	Ver-A-T1D	Impact	CFZ533
	MELD-ATG A CLINICAL TRIAL BY INNODIA	Ver-A-T1D A CLINICAL TRIAL BY INNODIA	Impact	CFZ533 ISCALIMAB IN COLLABORATION WITH INNODIA
Open	Belgium, Germany	Austria, Germany, Belgium, UK	Belgium, UK, Italy, Slovenia, Sweden	Belgium*, Slovenia, Italy*, UK (and Spain*)
screened	11	5	49	1
randomised	9	3	11	1
approved in	UK, Finland and Slovenia Other countries submitted or preparing submission	UK and Sweden Other countries submitted or preparing submission		
Start of study	Dec 2020	Feb 2021	Nov 2020	Nov 2020

*Spain and some sites in Belgium and Italy are non-INNODIA country/site, number for INNODIA sites only

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Thank you to all!

INNODIA/INNODIA HARVEST: IMI-2 projects

Thank you for your attention

INNODIA is a unique and interdisciplinary network of 40 partners, including preeminent academic institutions from Europe, industrial partners, charitable foundations and small sized enterprises and a dedicated group of advising patients, bringing together their knowledge and experience to achieve one common goal: "To fight type 1 diabetes". Launched in January 2016, this European-based public private partnership (PPP) receives funding from the Innovative Medicines Initiative 2 Joint Undertaking (Grant Agreement Number: 115797) and is supported by the European Union's Horizon 2020 Research and Innovation program, European Federation of Pharmaceutical Industries and Associations (EFPIA), The Leona M. and Harry B. Helmsley Charitable Trust and JDRF. INNODIA HARVEST (Grant Agreement Number: 945268) an extension of INNODIA, enables to run more clinical trials on the backbone of the INNODIA clinical network.