



JDRF INDUSTRY PARTNERING STRATEGY

HRA 2016 Members Meeting

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Type 1 Diabetes (T1D): What is it? The Challenge and Commercial Opportunity

- Destruction of pancreatic insulin-producing β cells
- Requires 24/7/365 disease management
- Devastating short and long term complications
- As many as 1.5 million Americans have T1D
- Incidence of T1D increasing worldwide

- *Current treatments & technologies not meeting the challenges of T1D management*
- *Need new innovations to relieve burden of T1D and to better treat, cure and prevent T1D*

JDRF Mission

We are focused on individuals living with T1D and their families



JDRF Mission: discover, develop & deliver drugs and devices that cure, better treat, and prevent T1D

■ Goals

- CURE
 - Restore normal glucose control
 - Avoid or lessen complications
- TREAT
 - Improve glucose control
 - Simplify T1D management
- PREVENT
 - Prevent beta cell autoimmunity
 - Preserve/restore residual beta cell function



JDRF Research - Industry Partnerships WHY?

Urgency to accelerate the development of novel therapies yet...

- Existing sources of early stage funding are inadequate
 - Angels, Friends & Family
 - Some university technology transfer offices have established incubators
 - SBIR/STTR
 - Phase I – POC and feasibility studies
 - Phase II – Research and Development
- VCs – most shun the early, ‘embryonal’ stage
- Large Pharma
 - Contracting internal basic research
 - Risk-adverse seeking mostly Ph 2 assets

Industry Partnerships are Critical to JDRF's Mission

**JDRF cannot Cure,
better Treat and
Prevent T1D Alone!**



- **Leverage** JDRF's financial contribution
- **Expertise** to deliver results to patients
 - Research – Deep subject matter expertise
 - Business – Various funding vehicles, access to pharma and VCs
 - Regulatory – Contacts with regulatory agencies and payors
- **Accelerate** translation of basic innovation to the clinic

JDRF – Research Business Development

STRATEGY FOR ACCELERATING TRANSLATION TO THE CLINIC: DIVERSE FUNDING VEHICLES TO MATCH THE SPECIFIC SCIENTIFIC AND COMMERCIAL OPPORTUNITY

- STRATEGIC, NON-FINANCIAL PARTNERSHIPS
- PHARMA JOINT RESEARCH FUNDING
- EXTERNAL: Industry Discovery and Development Partnership (IDDP)
 - Specific POC project, go/no-go
 - JDRF provides partial, milestone-based, non-dilutive funding
 - Royalty payback linked to development milestones
- INTERNAL: Joint Funding – Partner-ready projects
 - JDRF and pharma partner co-fund academic translational research project
 - Recruits early industry engagement
 - Facilitated transfer to industry
- EITHER External or Internal program: JDRF Therapeutics Fund (JTF) - Equity-based transactions
 - Pre or at Series A funding; JDRF may participate as part of a syndicate (Pharma/VC)
 - Payback through equity ownership

ALLIANCE MANAGEMENT: All about *delivering!*



JDRF

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THANK YOU!

BACKUP SLIDES

JDRF's Research Priority Areas

Cure

type 1 diabetes by replacing or regenerating beta cells, and halting the autoimmune process.

Encapsulation of alternative beta cells

Regeneration of new beta cells sources

Autoantigen-specific immunotherapies

Biomarkers and imaging tools

Treat

type 1 diabetes with new devices and therapies that optimize blood glucose control and treat/prevent diabetic complications.

Artificial pancreas systems

Novel insulin & glucose control therapies

Complications prevention (focus on diabetic nephropathy & diabetic retinopathy)

Prevent

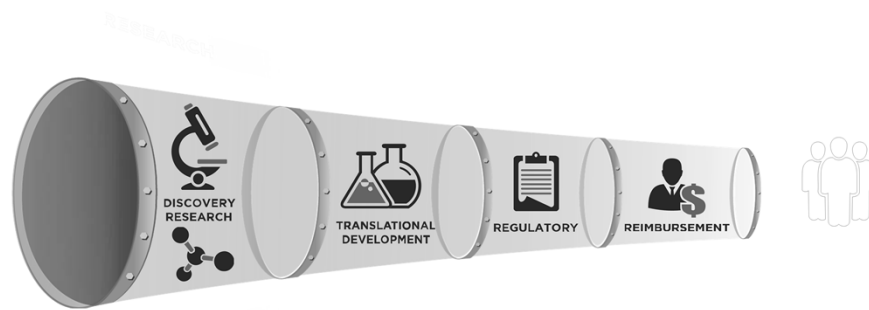
type 1 diabetes with vaccines and other therapies.

Diabetes vaccines to prevent autoimmunity from starting

Arrest or reversal of autoimmune process to maintain insulin independence

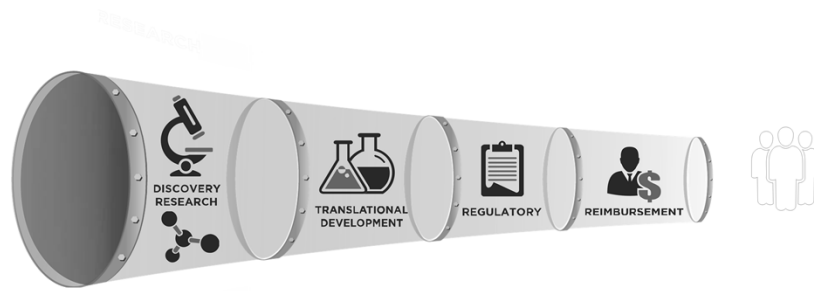
- JDRF is the largest charitable supporter of T1D research
- Since its inception in 1970, JDRF has funded close to \$2B in research
- JDRF supports scientific research in 18 countries.

JDRF: Translating Innovative Discoveries



- Only companies are capable of:
 - Delivering on the output of JDRF discovery research
 - Commercializing better treatments and disease-modifying therapies and devices
 - Bundling therapies on behalf of a curative solution for T1D

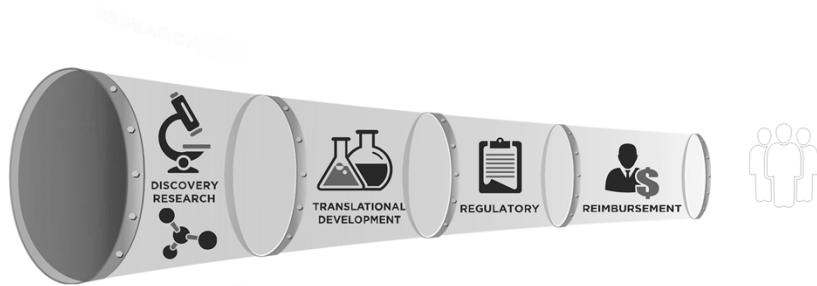
Critical Role for Research - Industry Partnerships to Translate and Deliver Therapeutic Solutions to Patients



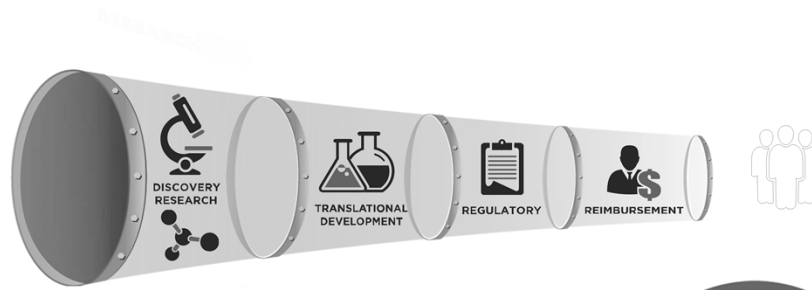
To date :

- 88 grant awards/collaborative partnerships
- with 56 companies
- committed ~\$160M JDRF research funding
- leverage: companies matching funding & follow-on investments >\$1B

Non-Financial Strategic Research Partnerships



JDRF – Pharma Joint Funding Research Partnerships



Janssen | PHARMACEUTICAL COMPANIES
OF Johnson & Johnson

Calibr
California Institute for Biomedical Research

Genomics Institute of the
Novartis Research
Foundation

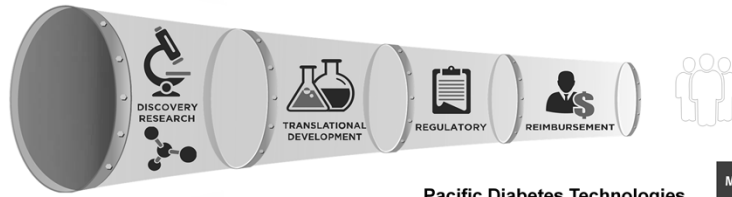
CTI
Centers for Therapeutic Innovation
A Pfizer-supported collaboration

Lilly

Pfizer

SANOFI

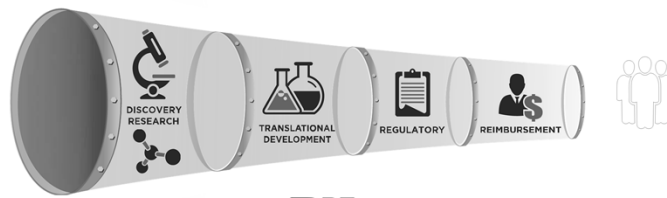
JDRF Industry Research Partnerships → Project Based Financing IDDPs



Logos of industry research partners and Project Based Financing (IDDP) partners:

- Capillary Biomedical
- TANDEM DIABETES CARE
- VIACYTE™
- BetaO₂ TECHNOLOGIES
- Animas CORPORATION a Johnson & Johnson company
- Sernova Corp
- DiabetOmics
- Pacific Diabetes Technologies
- Medtronic
- Arecor
- Lexicon pharmaceuticals
- AstraZeneca
- KalVista PHARMACEUTICALS
- WAVE 80
- BD
- Thermalin Diabetes, LLC
- Defymed
- LCT living cell technologies
- XERIS PHARMACEUTICALS
- LATITUDE Pharmaceuticals Inc.
- Dose Safety
- SELECTA Biosciences
- REGIMMUNE
- JDRF

JDRF THERAPEUTICS FUND (JTF)



ANTOLRx

JDRF
therapeutics
ventures
IMPROVING LIVES. CURING TYPE 1 DIABETES. **T1D**

- The JTF is a high-impact venture philanthropy vehicle targeting investments that lead to commercialization of advanced therapies to treat, cure and prevent T1D
 - Enterprises lacking sufficient capital to advance promising therapies
 - De-risk basic research discoveries
 - Provide expert and active support to help early stage companies execute business and scientific strategies

Advocacy's Role in Advancing T1D Therapies

PUBLIC SECTOR FUNDING FOR T1D RESEARCH & DEVELOPMENT

Thanks to JDRF's advocacy, Congress continues to renew the Special Diabetes Program, which funds \$150 million a year in T1D research through the National Institutes of Health, including important artificial pancreas, kidney, islet cell, and prevention research.

REGULATORY PATHWAYS

JDRF played a leading role in defining the FDA pathway for artificial pancreas systems, resulting in final guidance in 2012, and is engaging to help ensure clear and reasonable policies for other priority T1D therapies.

HEALTH CARE PATHWAYS

JDRF played a leading role in ensuring private health plan coverage and clinical guidelines for continuous glucose monitors and is engaging to help ensure pathways for reimbursement for other priority T1D therapies.