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

- Destruction of pancreatic insulin-producing βcells
- 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
  - Facilitates 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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Research Business Development
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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.
• 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 Industry Research Partnerships → Project Based Financing

IDDPs
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
## JDRF Advocacy

### Advocacy’s Role in Advancing T1D Therapies

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<tr>
<th>Sector</th>
<th>Description</th>
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<tr>
<td><strong>PUBLIC SECTOR FUNDING FOR T1D RESEARCH &amp; DEVELOPMENT</strong></td>
<td>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.</td>
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<td><strong>REGULATORY PATHWAYS</strong></td>
<td>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.</td>
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<td><strong>HEALTH CARE PATHWAYS</strong></td>
<td>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.</td>
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