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A Message from Our President and CEO

Dear JDRF Community,

The fiscal year 2016 Annual Report is your story. Your generosity of time, money and talent got us closer to a cure and paved the way for exciting new breakthroughs that promise to keep our families, our friends and ourselves healthy and safe until we have eradicated type 1 diabetes (T1D) once and for all.

In the following pages you will read about some of the outstanding progress that you made happen over the last year. You will learn about the long journey that brought us to where we are today. Our commitment and perseverance have transformed the T1D landscape over the nearly five decades since JDRF’s inception. Our understanding of the disease, how we manage it and the outlook for the future have never been better and are improving every day.

I am deeply encouraged and grateful for everything that we have accomplished together—in FY2016 and throughout our history.

On behalf of my family and the millions of people living with T1D, thank you.

Sincerely,

Derek K. Rapp
President & Chief Executive Officer

CHAIRMAN OF THE INTERNATIONAL BOARD OF DIRECTORS

At the close of FY2016, JDRF welcomed our new chair, Mark Fischer-Colbrie. Mark and his family became involved with JDRF in 2000 after his son was diagnosed with T1D. He cofounded the JDRF Silicon Valley Chapter and has served as their Chapter Board President. He has previously served as a member of the International Board of Directors where he sat on many committees. Mark has 25 years of experience in the biomedical field and is currently the president and CEO of Labcyte, where he has worked since 2007.
Fiscal Year 2016 Mission Milestones

Fiscal year 2016 was a year of exciting advances toward the cure, prevention and treatment of type 1 diabetes (T1D) and its complications. Our years of strategic investment have led to more promising treatments moving from the laboratory into the development pipeline to deliver real-world treatments.

A JDRF-funded trial at the University of Virginia (UVA), designed to test and validate extended at-home use of a hybrid control-to-range artificial pancreas (AP) system, wrapped up in December 2015. The results were so positive that the National Institutes of Health subsequently awarded the team a grant of $12.7 million for pivotal trials of the algorithms and software platforms that underpin its Diabetes Assistant (DiAs) AP system. The pivotal trials are a crucial step toward commercialization of the UVA technology.

Investigators led by Massachusetts Institute of Technology researchers Daniel Anderson, Ph.D., Robert Langer, Sc.D., and Harvard researcher Douglas Melton, Ph.D., reported that they had developed a coating that covers encapsulation devices in a veritable “invisibility cloak,” allowing the devices to hide from white blood cells that engulf and destroy foreign bodies. They also demonstrated that islet cells protected by the cloaked devices and implanted in diabetic mice produced insulin and were able to keep blood-glucose levels within targeted range for the 174-day duration of the research study.

San Diego-based regenerative medicine specialist ViaCyte announced early results from an ongoing clinical trial of its VC-01 encapsulation device. The company says that in at least one case the precursor cells inside were beginning to differentiate into beta cells.
JDRF announced a three-year industry partnership with Sanofi to advance four glucose responsive insulin (GRI) projects toward potential commercial development. The projects are focused on the development and delivery of new insulin formulations that will circulate inertly in the blood until needed, switching “on” in response to rising blood-glucose levels, and “off” again when glucose levels come back into range.

Patrick Collombat, Ph.D., at the INSERM institute in France identified two specific proteins that guide the development of endocrine cells in the pancreas, determining if the cells will ultimately become alpha, beta or other types of cells, all of which aid in metabolic control. The researchers also found that altering the activity of these proteins in adult alpha and beta cells can cause the cells to “transdifferentiate” or switch function, effectively turning a glucagon-producing alpha cell into an insulin-producing beta cell.

THE PROGRESS MADE THIS YEAR BUILDS UPON DECADES OF VISION, FOCUS AND WISE INVESTMENT, MADE POSSIBLE BY YOU. WE LOOK FORWARD TO AN EQUALLY EVENTFUL FY2017 AS WE CONTINUE TO FIGHT FOR A WORLD WITHOUT T1D.
Early Diagnosis as a Path to Prevention

Genetics, environment, diet, viruses, intestinal microbes... the list of possible factors in the development of type 1 diabetes (T1D) is long and varied. JDRF is committed to finding out what triggers the onset of T1D, how the disease develops and what interventions could delay or even stop its progress. The effort is part of our Prevention Program, focused on averting the onset of autoimmunity—an immune system attack that damages or kills insulin-producing beta cells—or forestalling progression to symptomatic disease.

Prevention will relieve future generations of the daily burdens of managing the disease. Prevention will also eliminate potentially deadly acute health crises—such as diabetic ketoacidosis (DKA) and its equally dangerous opposite, hypoglycemia—as well as the terrible long-term complications associated with chronic high blood sugar. The rising incidence of new diagnoses of T1D combined with the earlier age of onset has made stopping or slowing the disease’s development a top JDRF priority for the last two decades.

Over the years JDRF has worked closely with some of the world’s leading researchers to understand the triggers and progression of T1D. Among the foremost researchers is German endocrinologist Anette-Gabriele Ziegler, the Diabetes and Gestational Diabetes Chair at the Munich Technical University School of Medicine. JDRF has been funding Dr. Ziegler’s work since 2000, when we supported her research with the German BABYDIAB project that followed 1,610 children who had one parent with T1D. The study explored if, when and how the disease developed and progressed in the children. JDRF has funded 12 of Dr. Ziegler’s projects, all examining the way T1D progresses, identifying biomarkers of the disease and translating those findings into trials to develop preventative interventions.

One of the most significant stories in T1D research in FY2016 was publication of the first results of Dr. Ziegler’s latest project, the FrIda study that will screen 100,000 Bavarian children for beta cell-specific autoantibodies during routine well-child pediatrician visits at age 3 or 4. More than half of the children with two or more autoantibodies in their blood by age 5 will progress to symptomatic disease within five years. Researchers expect that early screening will help prevent hospitalizations due to episodes of DKA. Currently one in three German children with recent onset T1D is hospitalized with DKA, which is often the first sign of the disease’s full onset. Of the 36,000 children examined during the first year of the trial, 105 were found to have two or more autoantibodies. Due to early identification and follow-up lifestyle and treatment counseling for the families, none of the children who progressed to symptomatic disease were hospitalized with DKA.
Fifty-two of the children with multiple autoantibodies were offered places in an efficacy study to determine if daily doses of oral insulin taken while most beta cells are still functional can prevent the onset of symptomatic disease. The oral insulin intervention study is slated to run through June 2021.

Dr. Ziegler is not the only researcher JDRF has funded on the early identification and natural history of T1D over the past two decades. We’ve also supported the Diabetes Prediction and Prevention Trial in Finland (DIPP); the long-running multicenter study of potential environmental triggers of T1D known as TEDDY; as well as the DAISY study examining diabetic autoimmunity in at-risk newborns and their families. In addition to direct funding from JDRF, many of these studies have received support from the National Institutes of Health and the National Institute of Diabetes and Digestive and Kidney Diseases through the Special Diabetes Program. The research to understand presymptomatic T1D is moving forward with a major initiative by JDRF, the Endocrine Society, the American Association of Clinical Endocrinologists, the International Society for Pediatric and Adolescent Diabetes, the American Diabetes Association and The Leona M. and Harry B. Helmsley Charitable Trust to establish a staging system to describe the progression of presymptomatic T1D.

In addition to cutting down on unnecessary hospitalizations, as seen in the early Fr1da results, earlier identification and methodical staging of the disease has critical implications for treatment, such as therapies to potentially slow progress to symptomatic disease. Studies into the progression of T1D may also help JDRF and our partner researchers design more effective clinical trials of potential interventions. Widespread clinical adoption of the new staging may persuade insurers to cover diagnostic testing and may encourage regulators to approve new therapies targeted specifically at early stage T1D.

Several JDRF-funded clinical trials taking different approaches to prevention are underway across the globe, including trials of repurposed type 2 diabetes drugs, nutritional interventions and antigen-specific immunotherapies that help the body build tolerance toward beta cells. Our work in prevention is part of our efforts to cure T1D not just for future generations, but also for those who are already at-risk and progressing toward symptomatic disease.
The Juvenile Diabetes Foundation, now JDRF, is founded by Lee Ducat, Carol Lurie, Erwin Lurie and a group of parents whose children have T1D. Their conviction is clear: Through research, T1D can and will be cured.

1971
JDRF raises $10,000 in our first year. The money is used to find out how many people in the United States are living with diabetes—a statistic previously unknown.

1976
The National Diabetes Advisory Board is established by Congress to advise on all national government efforts to combat diabetes. Lee Ducat, Carol Lurie and Erwin Lurie would all serve as board members.

1978
A test to measure hemoglobin A1c (HbA1C) levels is developed. Scientists are now able to gauge how much blood sugar has attached to the hemoglobin molecule, and thereby can determine the state of diabetic control over a period of months.

1979
Nearly 400 JDRF leaders, advocates and volunteers meet with Members of Congress during a three-day session to raise awareness and build support for T1D research funding.

1979
An experimental insulin pump is developed that delivers a preprogrammed flow of insulin, with the ability to deliver larger amounts before meals.

1984
U.S. Government funding for diabetes research reaches $181 million—ten times the amount provided the year JDRF was founded.

1989
JDRF-backed researcher Paul Lacey, M.D., Ph.D., performs first islet transplant in humans.

1990
JDRF names Mary Tyler Moore “Woman of Decade” for her work as JDRF’s International Chairman. Mary Tyler Moore began working with JDRF in 1984, and for over 30 years promoted education and awareness while raising support to advance research. She passionately advocated for a cure as well as research into T1D complications while also inspiring millions of people in the T1D community.

1997
Mary Kaye and Elizabeth “Liddy” Huntsman create the JDRF Bag of Hope® for children who have been recently diagnosed with T1D—and their caregivers.

1997
Congress creates the Special Diabetes Program (SDP) after its Diabetes Research Working Group reported serious limitations in diabetes research—for T1D in particular—largely due to inadequate funding. Thanks to JDRF advocacy, the SDP has dedicated nearly $2.5 billion to T1D research since this time.

1998
JDRF Center for Islet Transplantation established at Harvard Medical School, the first of eight centers in North America dedicated to finding a cure for T1D through islet transplantation.

1999
The first JDRF Children’s Congress takes place in Washington, D.C.—giving children a chance to help Members of Congress understand what it’s like to live with T1D and why funding T1D research is so important.

Path to a Cure
Explore our interactive timeline at jdrf.org/timeline
2000
JDRF-backed researchers establish Edmonton Protocol to successfully transplant donor islet cells using much less toxic immunosuppressive drugs.

2002
JDRF-funded clinical trial demonstrates effectiveness of anti-CD3 antibody in preserving function of insulin-producing cells in new onset T1D—an important step to one day prevent T1D from occurring.

2002
JDRF’s Online Diabetes Support Team answers its first question about living with T1D.

2004
JDRF backs the National Institutes of Health’s launch of T1D Genetics Consortium, which has identified more than 50 genes that confer T1D risk. Their discovery helps stage risk and progression, and offers targets for treatment.

2006
JDRF launches the Artificial Pancreas (AP) Consortium, bringing together the best scientists from the public, private and academic sectors to work collaboratively on the development and delivery of AP systems.

2007
JDRF launches Network for Pancreatic Organ Donors with Diabetes (nPOD), the world’s only tissue bank for donor pancreases and related tissues from people with and at risk for T1D.

2008
JDRF-funded clinical trial demonstrates efficacy of continuous glucose monitors (CGMs) in helping to manage blood sugar, with lower HbA1c levels and reduced rates of severe hypoglycemia.

2011
JDRF launches the Microbiome Consortium to establish an international network of scientists to collaboratively investigate the role of gut bacteria (microbiome) in the onset and progression of T1D.

2014
JDRF-backed researcher develops breakthrough protocol for rapidly converting human stem cells into insulin-producing beta cells in the lab, a step toward overcoming the scarcity of islet cells available for beta cell replacement therapies.

2014
FDA approves the DexCom Share, funded in part by JDRF, which enables people to share their CGM data with family members. JDRF also partners with Silicon Valley-based nonprofit Tidepool to complete development of an app that will allow people using various brands of insulin pumps and CGMs to share their data with family members and healthcare providers.

2015
Merck launches clinical trial of glucose responsive insulin (GRI) drug candidate developed with early support of JDRF. GRIs are designed to circulate inertly in the bloodstream until activated by rising blood-glucose levels.

2016
First results of JDRF-backed Frlida study screening healthy children for early stage nonsymptomatic T1D show the feasibility of identifying children on the path to T1D and avoiding diabetic ketoacidosis.

2016
JDRF Clinical Trials Connection launches to help drive progress to better therapies. The program provides people with an interest in participating in research with information about ongoing clinical trials.

2016
FDA approves the first hybrid closed loop AP system to automate dosing of insulin.
OUR ROOTS IN ADVOCACY
In the early days of JDRF, Lee Ducat, Carol Lurie and other founders knew that to cure type 1 diabetes (T1D) they would need the support of Congressional leaders and the United States Federal Government. In the 1970s, JDRF leaders and volunteers traveled to Washington, D.C., to meet with Members of Congress and the Administration to raise awareness and garner support for T1D research. Over the decades that followed, advocacy and grassroots mobilization have remained central pillars of JDRF’s plan to cure, prevent and treat T1D. Every day, JDRF Advocates across the country make calls and pound the pavement to create clear pathways to move scientific advances from the laboratory to people who need them.

ONE VOICE FIGHTING FOR COVERAGE
One of the most critical legislative issues facing the T1D community in FY2016 was securing Medicare coverage for continuous glucose monitoring (CGM) systems. CGM systems are U.S. Food and Drug Administration-approved, lifesaving devices that are proven to improve glucose control. As a result of our earlier advocacy work, the devices have been covered by most private insurers for years—yet coverage for people on Medicare lagged behind. In July 2015, people of all ages and stages of life with T1D gathered on Capitol Hill trumpeting this important message. JDRF advocates and researchers testified before the U.S. Senate Special Committee on Aging about the rigors of daily life with
T1D, the critical importance of including CGM coverage under Medicare and the need for increased research funding. At the same time, JDRF 2015 Children’s Congress was in full swing. More than 160 young delegates with T1D ages 4 to 17 from all 50 states and six countries came to Washington, D.C., to share their stories and ask their Members of Congress to support JDRF’s legislative priorities.

JDRF Advocates worked tirelessly to expand CGM access throughout the year—leading grassroots efforts in their local communities and gathering in Washington again in March 2016 for JDRF’s annual Government Day. Nearly 190 advocacy leaders from across the country held more than 500 meetings with Members of Congress and their staff to persuade them that CGM systems are a necessary, lifesaving technology.

The result of these efforts: 50 U.S. Senators and 275 U.S. Representatives from both sides of the aisle pledged their support for the “Medicare CGM Access Act.” Thanks to this strong bipartisan support, the tenacity of JDRF Advocates, clinician leaders and other stakeholders, and the leadership of the Centers for Medicare & Medicaid Services, in January 2017 CGMs became eligible for Medicare coverage—a major victory for the T1D community.

LOOKING TO THE FUTURE
JDRF believes that every person with T1D should have access to the therapies they need. In FY2016, JDRF launched a health policy initiative with The Leona M. and Harry B. Helmsley Charitable Trust and T1D Exchange to increase access to emerging therapies. By leveraging the expertise and resources of each organization, the initiative will address challenges in the health care system that stymie the adoption of innovative therapies. Overcoming these hurdles will allow people with T1D to experience better outcomes, and lead happier and healthier lives until a cure is found.

“The health policy initiative continues JDRF’s long-standing commitment to advocacy on behalf of the T1D community,” says JDRF Chief Mission Officer Aaron J. Kowalski, Ph.D. “Partnering with The Helmsley Charitable Trust and T1D Exchange provides an unprecedented opportunity to leverage the reach, expertise and impact of each organization to improve outcomes in type 1 diabetes.”

YOUR VOICE MATTERS
Use your voice to help secure legislative support for research, influence sound policymaking and improve the quality of life for all those affected by T1D—until we find a cure.

Learn more at jdrf.org/advocacy
A Global Effort

Curing type 1 diabetes (T1D) will take a coordinated, global effort. For more than four decades, JDRF’s international affiliates have been pivotal partners in funding the research that will remove the impact of T1D from people’s lives until there is a cure.

Australia (est. 1982)

Canada (est. 1974)

Denmark (est. 2003)

Israel (est. 1983)

Netherlands (est. 2010)

United Kingdom (est. 1986)

Twenty-five JDRF UK supporters raise £45,000 in the London Marathon.

The first JDRF Australia Gala takes place in Sydney. These events now draw over 2,000 attendees in five Australian cities.

Access to insulin pumps in Israel is greatly expanded under the National Health Insurance Law, an effort led by JDRF Israel.

JDRF UK raises £2,066,048 in one year, surpassing the £2 million mark for the first time.

The first JDRF Walk to Cure Diabetes is held in Copenhagen.

JDRF Canadian Clinical Trial Network is created through a partnership with the Government of Canada.
The Danish Diabetes Academy is established based on advocacy work by JDRF Denmark and a grant of 201 million Danish kroner from the Novo Nordisk Foundation.

200 participants raise €54,000 in the first JDRF Netherlands Walk.

The Israeli Ministry of Education begins providing in-school assistance to every child with T1D ages 3 to 9, thanks to advocacy by JDRF Israel.

In the first JDRF Netherlands Ride to Cure Diabetes, 30 cyclists raise €6,750.

JDRF Denmark raises a record 3.1 million Danish kroner in one year to fund T1D research.

JDRF Australia launches the T1D Clinical Research Network through a AU$5 million grant from the Australian Government.

The Australian government allocates AU$54 million for research into continuous glucose monitoring systems, an effort led by JDRF Australia.

A major investment in accelerating T1D research is announced, awarding over $4 million in grants to researchers across Canada.

JDRF Netherlands raises approximately €7 million for T1D research.

JDRF Israel establishes a youth council to increase awareness and engagement of young people affected by T1D.

UK Prime Minister Theresa May joins JDRF UK and Her Royal Highness The Duchess of Cornwall in marking 30 years of fundraising successes.
Thank you to all of the dedicated families, volunteers and businesses who supported JDRF One Walk® throughout FY2016. Your dedication plays a critical role in the fight to end T1D. We also express our deepest gratitude to our many corporate partners for their commitment and support of JDRF One Walk, both nationally and internationally.

walk.jdrf.org

Thank you to everyone who took part in the record 2016 JDRF Ride to Cure Diabetes season. Your work on and off the course is helping to transform the lives of people with T1D.

ride.jdrf.org

Thank you to all the dedicated Advocacy volunteers who donate their time, talent and passion to help ensure clear and reasonable pathways for the latest breakthroughs to move from the lab to the people who need them.

advocacy.jdrf.org

Your passion, determination and generosity are making a lasting impact on the lives of people with type 1 diabetes (T1D). You make life-changing breakthroughs happen.
Thank you to all the guests, supporters and volunteers who make each JDRF Gala successful and inspirational. A special thanks to all the FY2016 Honorees who led their chapters in raising millions for T1D research.

JDRF’s corporate partners encourage their employees to volunteer their time and engage their customers and vendors on behalf of the millions of people living with T1D. We thank each of our partners and their communities for their generosity and commitment that is turning Type One into Type None.

SPECIAL THANK YOU TO OUR FY2016 ELITE PARTNERS

Thank you for your planned-giving commitments to T1D research. The BETA Society consists of people who have included JDRF as a beneficiary in their estate plans.
Fiscal Year 2016 Leadership

JDRF leaders bring a vast range of professional knowledge and expertise to the governing of JDRF and share the common goal of creating a world without T1D.

**JDRF INTERNATIONAL CHAIRMAN**

Mary Tyler Moore

**JDRF INTERNATIONAL BOARD OF DIRECTORS**

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Stephen Newman, M.D., *Vice-Chair of the Board*

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Larry Soler, *Chair, Nominating & Governance Committee*

Timothy St. Clair

Lorraine Stiehl

Lisa Wallack

Wendy Wood

**JDRF SENIOR STAFF***

Derek K. Rapp, *President & CEO*

Aaron J. Kowalski, Ph.D., *Chief Mission Officer & Vice President, Research*

Steven Griffen, M.D., *Senior Vice President, Research*

Sandra Hijikata, *Chief Development Officer*

Mark Greene, *Chief Financial Officer & Assistant Treasurer*

Alisa Norris, *Chief Marketing & Communications Officer*

Susan Yun, *Chief People Officer*

Margo K. Lucero, *Senior Vice President, Corporate & International Development*

Cynthia Rice, *Senior Vice President, Advocacy & Policy*

Jill Clark, *Chief of Staff*

**List current as of December 15, 2016**
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Maureen Barunas
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Timothy St. Clair
Lorraine Stiehl
Lisa Wallack
Wendy Wood
Fiscal Year 2016 Condensed Financials

PUBLIC SUPPORT & REVENUE

- $197M
- $126M Special Events (including Walk)
- $63M Contributions
- $8M International Affiliates

FUNCTIONAL EXPENSES

- $189M
- $96M Research (including grants and support)
- $52M Public Education
- $26M Fundraising
- $15M Management & General

TOTAL END OF FISCAL YEAR 2016 NET ASSETS

$64M

To view the FY2016 financial statements, which have been audited by KPMG LLP, please visit jdrf.org/financials

Leveraging Leadership and Influence

ATTRACTED MORE THAN $100M ADDITIONAL PARTNER COMMITMENTS IN FY2016

Your investment helps attract millions of additional dollars to type 1 diabetes research from governments, foundations, companies and other entities beyond what JDRF is able to fund directly.