

# 25 Years of Progress

Brian Herrick

# T1D: a ~~love~~ hate story

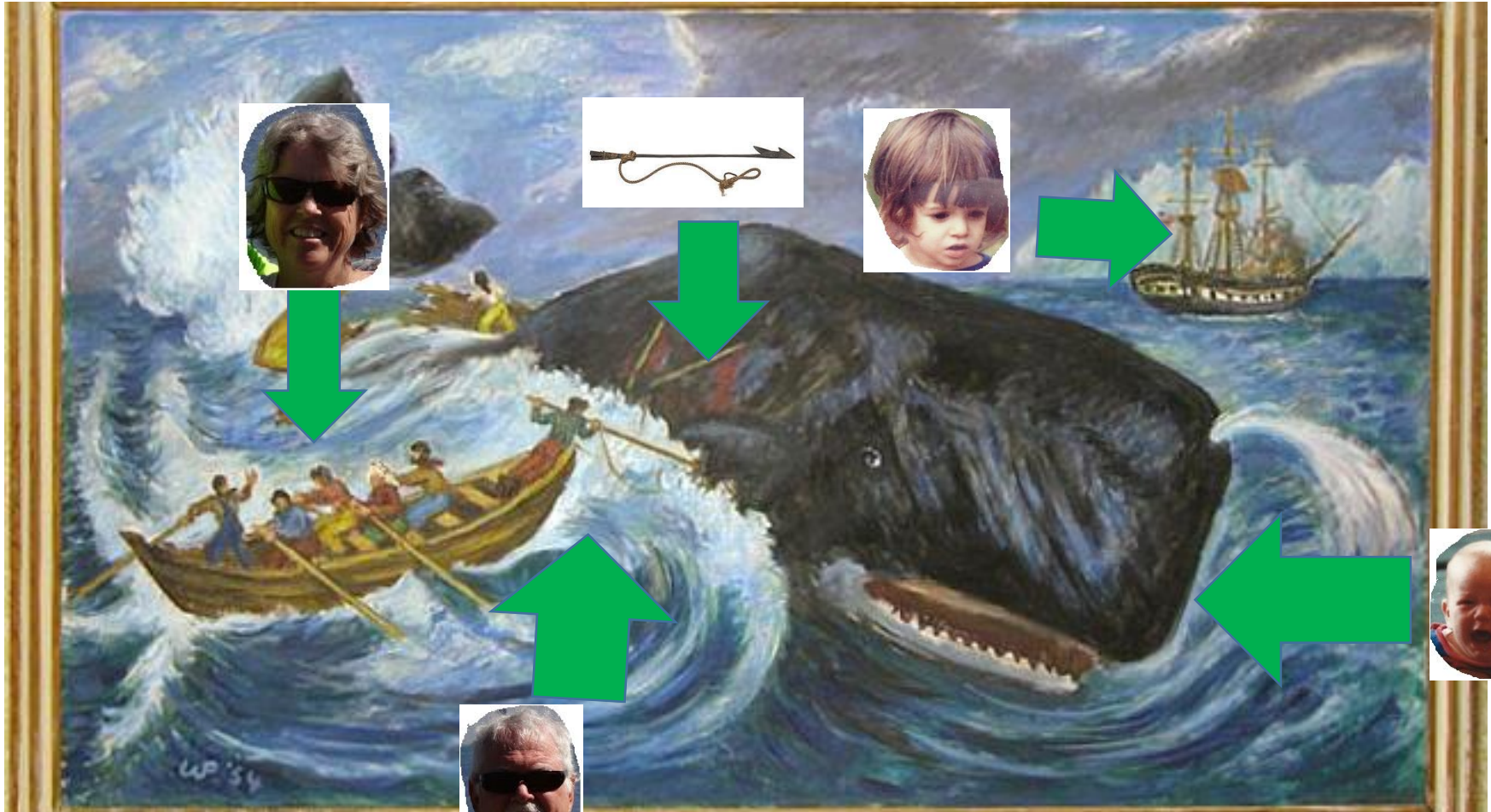


- Diagnosed February 18, 1993
- Prevented me from being as carefree as my friends, but didn't prevent me from being AWESOME.

# Where we were



# A day in the life



OUR VISION

type none

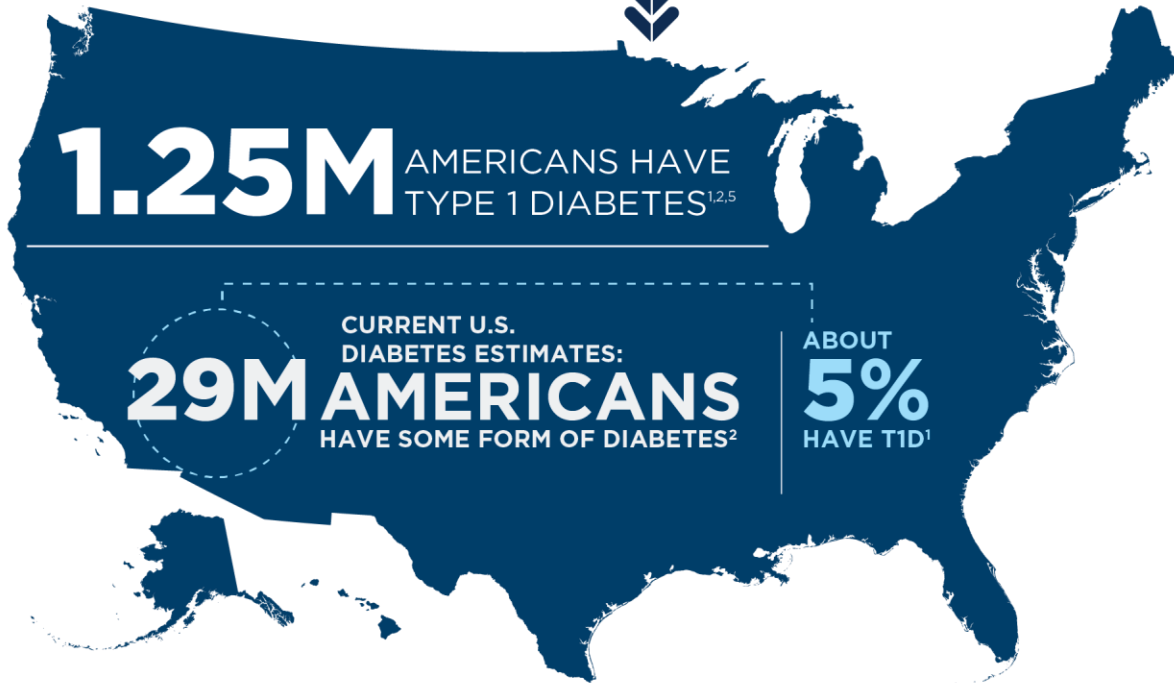
# TYPE 1 DIABETES Overview



**5M PEOPLE**  
ARE EXPECTED TO HAVE T1D<sup>2,3</sup>

**2050**

THIS INCLUDES A  
**THREIFOLD GROWTH**  
IN YOUTH WITH T1D TO NEARLY  
**600,000**<sup>2</sup>



**84%**  
OF THE PEOPLE WITH  
T1D ARE ADULTS<sup>1</sup>



**40,000**  
PEOPLE ESTIMATED TO  
BE DIAGNOSED WITH T1D  
EACH YEAR IN THE U.S.<sup>1,2</sup>



**\$14B**  
T1D-ASSOCIATED  
U.S. HEALTHCARE COST<sup>4</sup>

Less than one-third of people with T1D in the U.S. are achieving target blood glucose control levels<sup>6</sup>

<sup>1</sup> CDC National Diabetes Statistics Report, 2014  
<sup>2</sup> Imperatore, et al. 2012. Diab Care 35: 2515-2520

<sup>3</sup> Dabelea, et al. 2014. JAMA 311: 1778-1786  
<sup>4</sup> Shapiro, Pham 2013. Georgetown: 2542171

## THE PLAN

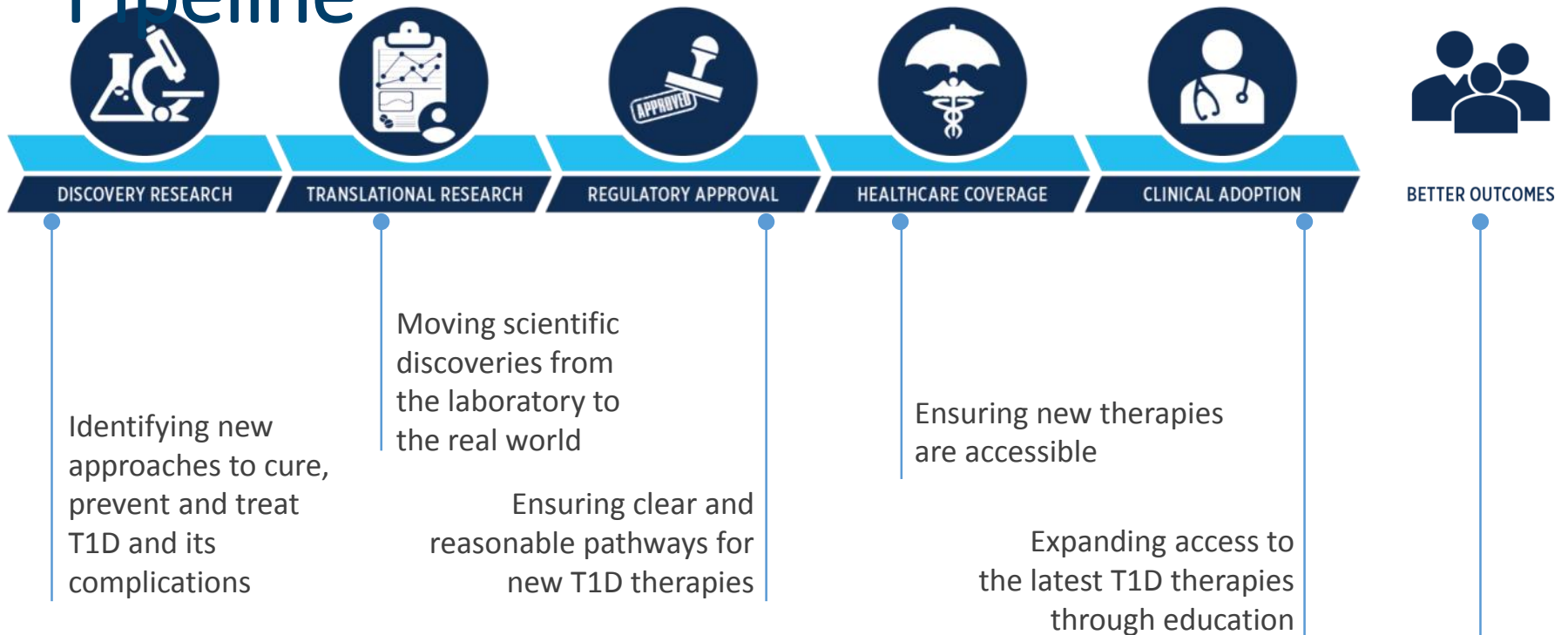
The JDRF logo consists of the letters 'JDRF' in a bold, white, sans-serif font, set against a blue arrow-shaped background pointing to the right.

typenone

Doing the Greatest Good,  
for the Largest Number of People,  
in the Shortest Period of Time

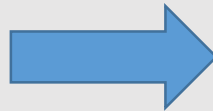
## THE PLAN

# Accelerating Progress Across the Pipeline





# The age of enlightenment



# Street Cred



- Involved with JDRF since 1999
- T1D treatments:
  - NPH insulin
  - R insulin
  - Compressed air injector (?)
  - Novolog
  - Humalog
  - Medtronic pumps since 2001
  - Medtronic sensor
  - Dexcom Sensor
- JDRF Rider
- JDRF Walker
- JDRF Advocate
- JDRF Staff

THE PLAN

# Artificial Pancreas

Our plan is to create a future where...



## Artificial Pancreas

The burden is eased all day,  
and you sleep safely  
through the night



# WHAT DOES A CLINICAL TRIAL LOOK LIKE?













2:18 AM  
dwm.med.virginia.edu

Solve The Emoji 3 Cars and 3... DB100795 884...889 Blood Journal | A rapid diagn... DWM - Overview

# DiAS Web Monitoring

Dashboard  
Patients  
**Overview**  
Preferences  
Alerts  
Notifications  
Protocols  
Centers

## Overview

Autorefresh in 31 seconds

**Hypo** **Closed-loop** **Hyper**

142 mg/dL  
4 minutes ago

100%

Recent note: No note

No alert

**Hypo** **Closed-loop** **Hyper**

142 mg/dL  
3 minutes ago

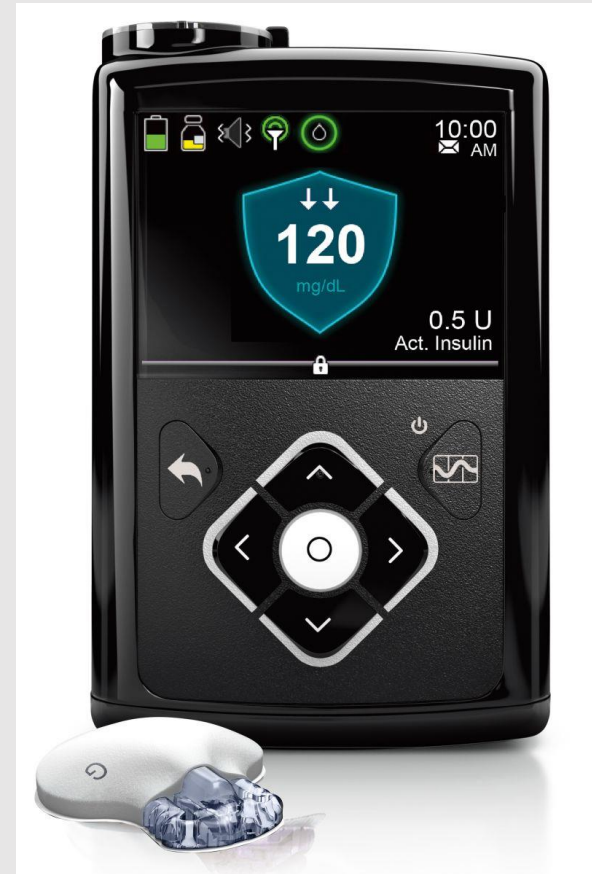
100%

Recent note: No note

No alert

Version: Python v3.00 - Copyright © 2011-2013 iAP Study

# Progress



# JDRF ROLE IN AP

2004

- JDRF Yale hypoglycemia grant supports prototype Medtronic AP system

2005

- JDRF launches Artificial Pancreas Project

2006

- JDRF CGM Trial published in New England Journal of Medicine and private plans start to cover them

2012

- **March** : FDA approves the first outpatient AP trial, funded by JDRF
- **November** : FDA releases final AP guidance based on recommendations from JDRF, providing a clear and reasonable regulatory roadmap

# Don't just take my word for it

- “I think JDRF got us here a lot faster than we could have any other way.”
  - Dr. Francine Kaufman, CMO, Medtronic Diabetes
- “JDRF deserves enormous credit for knocking down the biggest gating factor to automated insulin delivery all those years ago – FDA.”
  - Kelly Close, Close Concerns



ReactionGIFS.me

THIS IS A HUGE DEAL. HERE'S WHY.



# Alecia Wesner



- Strengths
  - T1D Champion
  - Walker
  - Rider
  - Clinical trial participant
  - FOB (friend of Brian)
- Weaknesses
  - Eating on long rides
  - Nighttime lows

# Brian Herrick



- Strengths:
  - T1D jokes
  - Bleeding
- Weaknesses:
  - Processing sugar
  - Nighttime control
  - Waking up when my CGM goes off

# Becky Herrick



- Strengths
  - Intelligence
  - Processing sugar
  - Tolerating me
- Weaknesses
  - Needs 8 hours of sleep a night

SLEEP. THE FINAL FRONTIER.

# Our white whale



- Pure, unadulterated sleep.
- For 8 hours
- Or maybe 9
- Or 10 if it's been a long week

# Kady Helme



- Strengths:
  - T1D Champ
  - JDRF Employee
  - Data-provider
  - Perfect nighttime blood sugars while on the Medtronic 670g for months
- Weaknesses
  - Sharing the 670g with me

THE PLAN

# Continuous Therapeutic Improvements



ARTIFICIAL PANCREAS



BETA CELL  
REPLACEMENT



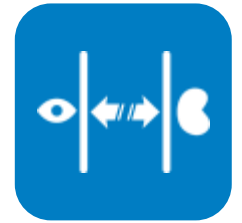
GLUCOSE CONTROL



PREVENTION



RESTORATION



COMPLICATIONS

YOUR SUPPORT

# Raising Awareness. Raising Funds.



**JDRF** IMPROVING LIVES. CURING TYPE 1 DIABETES.

**KIDS WALK TO CURE DIABETES**

AN IN-SCHOOL PROGRAM GEARED TOWARD AWARENESS, EDUCATION AND FUNDRAISING FOR T1D RESEARCH



**JDRF ONE WALK**  
FOR A WORLD WITHOUT TYPE 1 DIABETES **T1D**

THE FUNDS RAISED BY JDRF ONE WALK® – OUR FLAGSHIP FUNDRAISING EVENT AND THE LARGEST T1D EVENT IN THE WORLD – HELP US TURN TYPE ONE INTO TYPE NONE.

**JDRF RIDE TO CURE DIABETES**

BIKE RIDERS REACH PERSONAL TRAINING GOALS AS THEY RAISE CRITICAL FUNDS FOR RESEARCH



**TEAM JDRF TO CURE DIABETES**

AN OPPORTUNITY TO TURN A FAVORITE SPORT, HOBBY OR LIFE EVENT INTO A JDRF FUNDRAISER



**JDRF typeone**nationsummit  
IMPROVING LIVES. CURING TYPE 1 DIABETES. **T1D**

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IMPROVING LIVES. CURING TYPE 1 DIABETES. **T1D**



THANK YOU