

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



# ACCELERATING PROGRESS

Presented by: Brian Herrick and Alecia Wesner

November 19, 2016

# Brian



- Diagnosed February 18, 1992
- 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

# Alecia

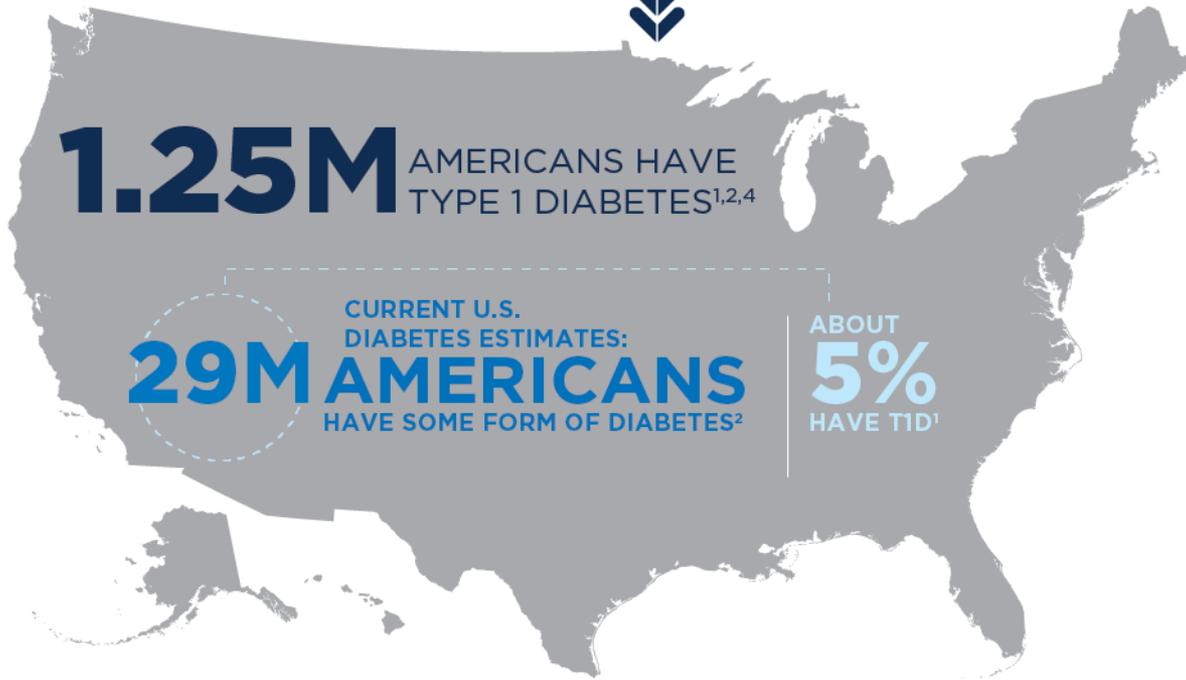


- Diagnosed June 19, 1979
- Involved with JDRF since 1979
- T1D treatments:
  - Bovine insulin
  - NPH insulin
  - R insulin
  - Novolog
  - Medtronic, Animas, Tandem user
  - Dexcom Sensor
- JDRF Rider
- JDRF Walker
- JDRF Advocate
- JDRF NYC Board Member
- Superhero

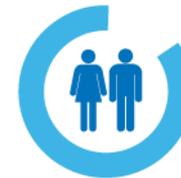
## OUR VISION

type none

# TYPE 1 DIABETES Overview



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

Less than one-third of people with T1D in the U.S. are achieving target blood glucose control levels<sup>5</sup>

T1D is associated with an estimated loss of life expectancy of up to 13 years<sup>6</sup>

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

<sup>3</sup> Dabelea, et al. 2014. JAMA 311: 1778-1786  
<sup>4</sup> JDRF Estimations

<sup>5</sup> T1D exchange data  
<sup>6</sup> Jama 2015; 313(1):1-9

## THE PLAN

**JDRF** **typeone**

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

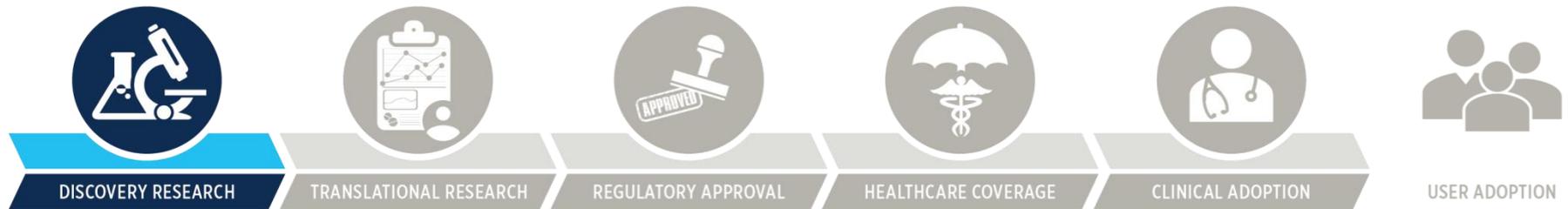
# THE PLAN

## Accelerating Progress Across the Pipeline



## THE PLAN

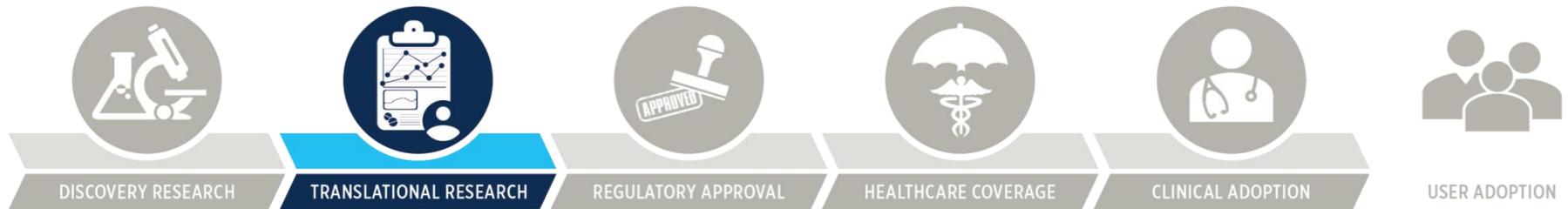
# Accelerating Progress Across the Pipeline



Identifying new approaches to cure, prevent and treat T1D and its complications

## THE PLAN

# Accelerating Progress Across the Pipeline



Moving scientific discoveries  
from the laboratory to the  
real world

## THE PLAN

# Accelerating Progress Across the Pipeline



Creating pathways for  
new T1D treatments

## THE PLAN

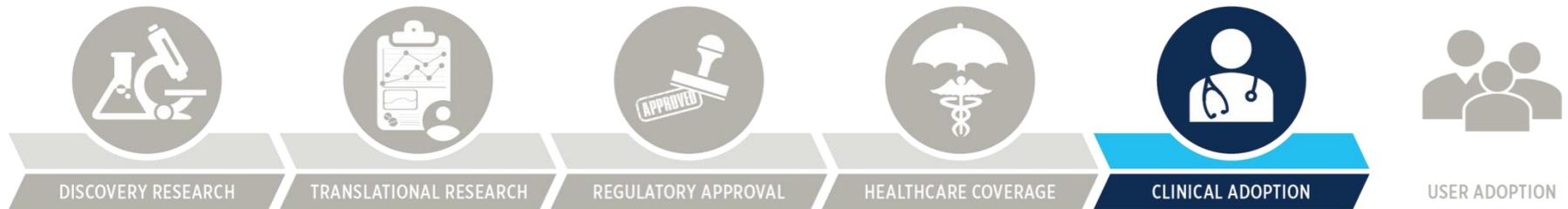
# Accelerating Progress Across the Pipeline



Ensuring treatments are  
affordable and accessible

## THE PLAN

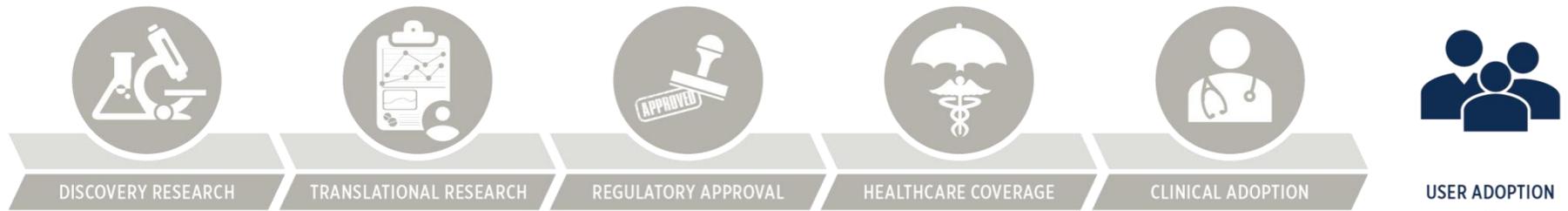
# Accelerating Progress Across the Pipeline



Expanding access to  
the latest T1D therapies  
through education

## THE PLAN

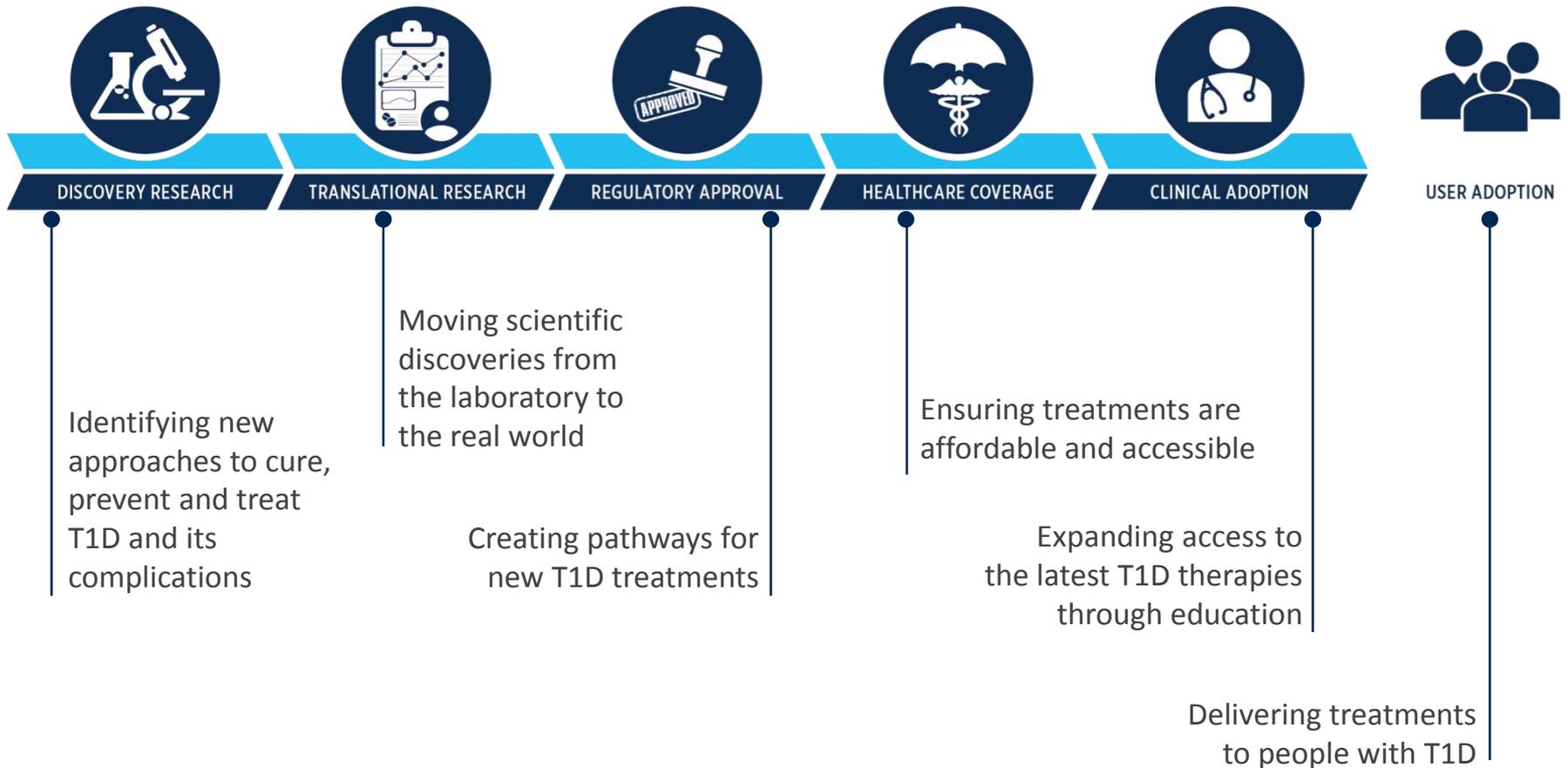
# Accelerating Progress Across the Pipeline



Delivering treatments  
to people with T1D

# THE PLAN

## Accelerating Progress Across the Pipeline



## THE PLAN

# Accelerating Progress Across the Pipeline



## TO DELIVER LIFE-CHANGING BREAKTHROUGHS

### CURE

Restoring Insulin Independence

### PREVENT

Preventing Symptomatic T1D

### TREAT

Improving Glucose Control

# THE PLAN

## Continuous Therapeutic Improvements



ARTIFICIAL PANCREAS



BETA CELL  
REPLACEMENT



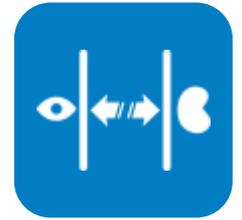
GLUCOSE CONTROL



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 FUNDS FOR CRITICAL RESEARCH

**TEAM JDRF TO CURE DIABETES**

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



## 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





## THE PLAN

# Beta Cell Replacement

Our plan is to create a future where...



## Beta Cell Replacement

You can skip counting carbs  
for months at a time



# THE PLAN

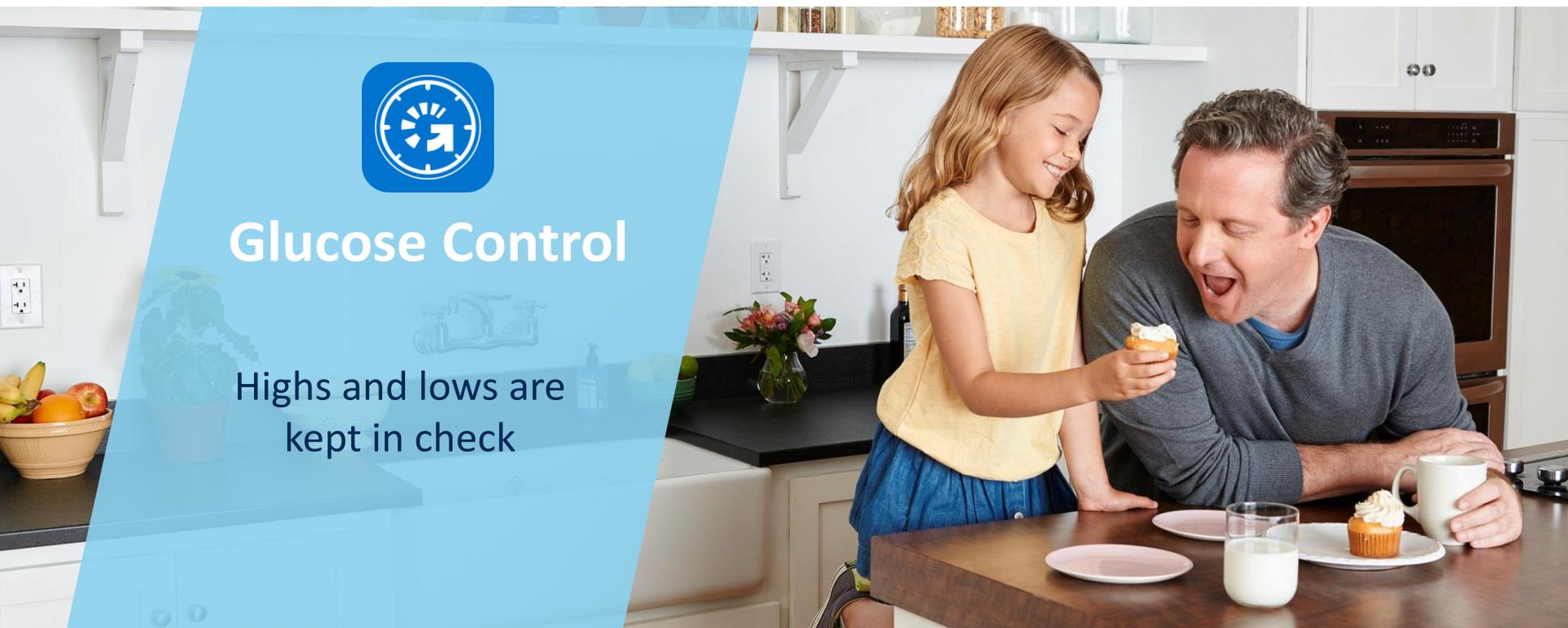
## Glucose Control

Our plan is to create a future where...



### Glucose Control

Highs and lows are kept in check



# THE PLAN

## Prevention

Our plan is to create a future where...



### Prevention

T1D can be prevented  
and will never threaten  
anyone again



# THE PLAN

## Restoration

Our plan is to create a future where...



### Restoration

Producing your own insulin doesn't require a second thought



## THE PLAN

# Complications

Our plan is to create a future where...



## Complications

Diabetes doesn't bring  
other health problems



turn **type one** into **type none**



# JDRF ROLE IN AP

# What is an Artificial Pancreas?

- When a continuous glucose monitor (CGM) and insulin work together with the help of an algorithm to regulate the body's blood sugar.
- Like the body's pancreas, AP systems will react to rising blood-glucose levels by combining monitoring technology with insulin pumps to provide the right amount of insulin at the right time.



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

# WHAT DOES A CLINICAL TRIAL LOOK LIKE?

# Clinical Trial Procedure

1. Eligibility screening
2. We're in! (high fives for everyone)
3. Training
4. Trial
5. Control Week
6. Return equipment





# The gear





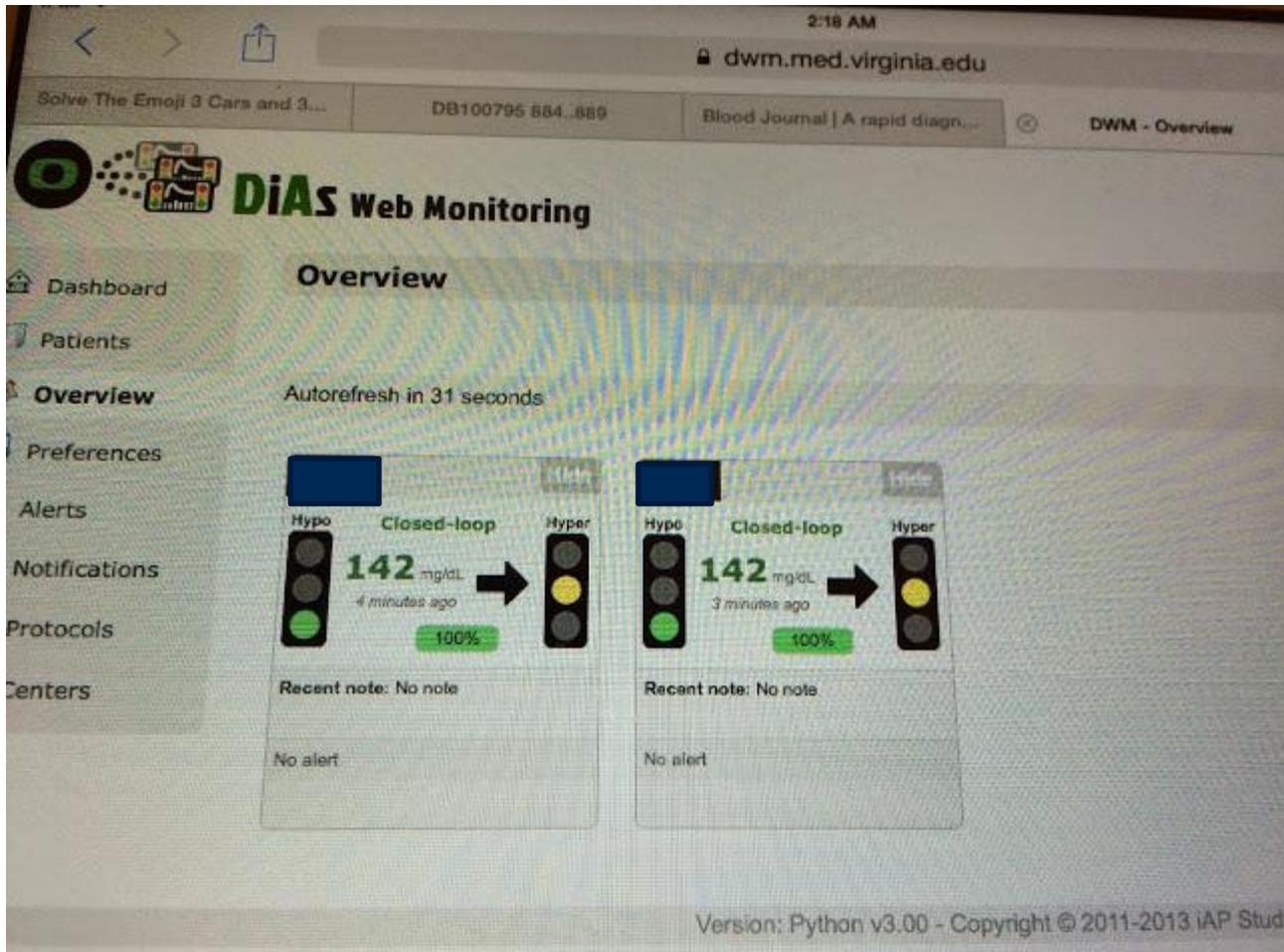












# Progress



## 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

THIS IS HUGE DEAL. HERE'S WHY.

# Alecia Wesner



## ■ Strengths

- T1D Champion
- Walker
- Rider
- Clinical trial participant
- Staying alive

## ■ Weaknesses

- Nighttime lows
- Questionable eater

# Brian Herrick

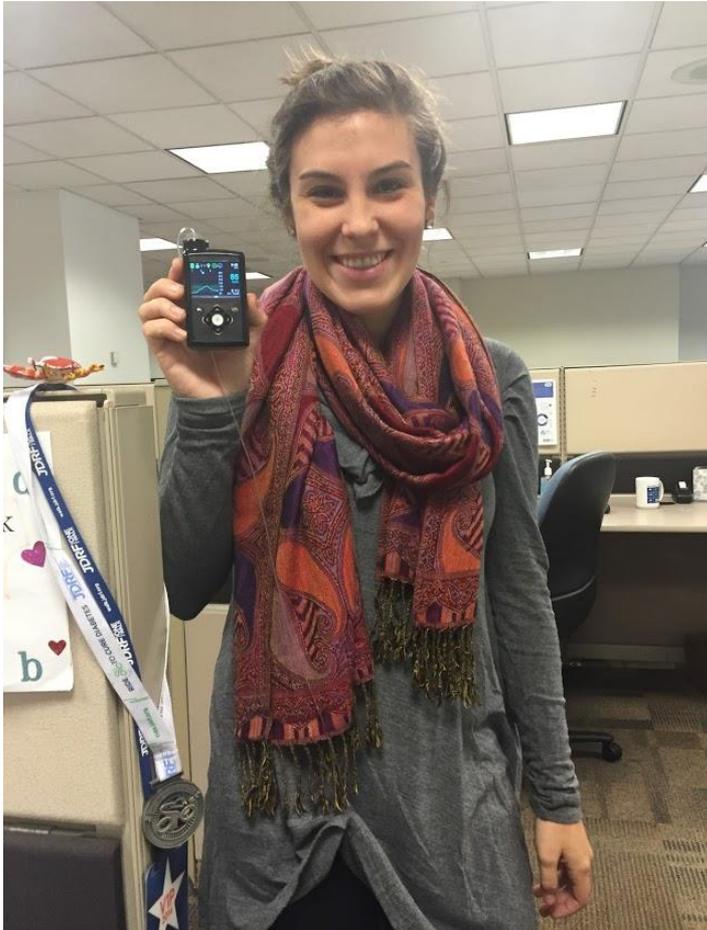


- Strengths:
  - T1D jokes
  - Bleeding
- Weaknesses:
  - Processing sugar
  - Nighttime control
  - Waking up when my CGM goes off

# SLEEP PLEASE



# 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 AP, we are just beginning



## CONTACT

# Here's Where You Can Find Us

BRIAN HERRICK  
[bherrick@jdrf.org](mailto:bherrick@jdrf.org)

ALECIA WESNER  
[aleciawesner@gmail.com](mailto:aleciawesner@gmail.com)

[jdrf.org](http://jdrf.org)

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



THANK YOU