

# Living History

Celebrate the American Diabetes Association's 75th anniversary with a stroll down memory lane  
BY REGAN MINNERS

Diabetes care has changed significantly since the American Diabetes Association (ADA) was founded in 1940, with new medicines, devices, and technologies emerging practically every year. Over the same time period, people with diabetes have proved they're capable of amazing things, refused to be defined by their diabetes, and continually pushed for better tools, care, and medicines.

In this timeline, *Diabetes Forecast* explores highlights in the progress of the people, care, and culture of diabetes over the past 75 years.



▶ **1947**  
The ADA opens its **first diabetes camp** for children in Montgomery, Alabama.



▶ **1941**  
Miles Laboratory launches **Clinitest**, a urine glucose-testing tablet. It's an improvement over the existing standard, Benedict's solution, which must be mixed with urine and heated over boiling water.



◀ **1948**  
*ADA Forecast* (now *Diabetes Forecast*) launches as a **quarterly magazine** for people living with diabetes. About 53,000 sample copies are distributed to physicians, pharmacists, and clinics.



The founders from the early years of the Association

• **APRIL 2, 1940**  
Here's how the **ADA is born**: 12 delegates attend a meeting of the Committee for the Establishment of a National Diabetes Association in Cleveland.



## 1959

Two distinct **types of diabetes** are identified: “insulin-dependent” (type 1) and “non insulin-dependent” (type 2) diabetes, suggesting the need to customize therapies as well as research approaches.

## 1961

If you have diabetes and are a frequent traveler, you might carry a **travel diabetes kit** similar to this one.

## 1963

The **first wearable insulin pump**, which delivers both insulin and glucagon, is developed. At this point, the pump’s still a prototype—it’s the size of a large backpack.



Older syringes, such as the one here, were made entirely of glass.

## 1955

The first disposable **plastic syringe** is released. Up until now, people with diabetes had to boil metal needles and glass syringes for each insulin injection.

## 1955

French researchers notice hypoglycemia in patients being treated for typhoid with a certain type of antibiotic. From these drugs, **sulfonylureas** are born as a type 2 diabetes treatment.

## 1950

The American Diabetes Association, the American Dietetic Association (now the Academy of Nutrition and Dietetics), and the U.S. Public Health Service develop the **diabetes exchange system**, for the first time dividing foods into six “exchanges” based on calorie, carbohydrate, protein, and fat content per serving. This new system spares people with diabetes the tedious weighing and measuring of everything they plan to eat.

## 1949

The Association recommends that **syringe manufacturers** follow specific unit and measurement criteria, making insulin dosing more uniform and reducing the risk of errors.



## 1964

The Ames Company introduces Dextrostix, the **first test strips** that use a drop of blood to measure glucose levels, providing real-time information about blood glucose levels.

### OCTOBER

Billy Mills, an **Olympian** with diabetes, wins the gold in the men’s 10,000-meter race.

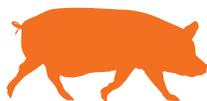
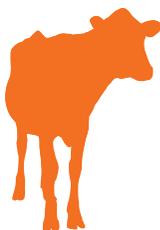
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1966

The first successful **pancreas transplant** is performed at the University of Minnesota Hospital, proving it's possible for a person with type 1 to live without insulin injections, though antirejection medications are required.

1973

New, more highly purified **beef and pork insulins** reduce the chances of allergic reactions.



1974

The National Diabetes Mellitus Research and Education Act is passed. This first-of-its-kind legislation specifically **allocates funds for diabetes research, training centers, and a long-range plan.** The act paves the way for future landmark legislation for people with diabetes and diabetes research.

1977

The Centers for Disease Control and Prevention opens a **division devoted to diabetes.** In 1989, the name will change to its current Division of Diabetes Translation.

The A1C test, the gold standard for measuring blood glucose control, is developed.

1986

The ADA publishes the first National Standards for Diabetes Patient Education. At about the same time, the **National Certification Board for Diabetes Educators** is born, creating a system for accrediting diabetes educators. For the first time, people with diabetes can seek out a certified diabetes educator—or, as they're often called today, a CDE—to learn skills related to medication management, monitoring, eating, exercise, and coping with diabetes.

1987

The Association launches the **Education Recognition Program**, the first to review, assess, and recognize quality diabetes education.

1985

With its NovoPen, Novo Nordisk introduces the world to the **first insulin pen.** The pen combines insulin and a way to inject it into one device.

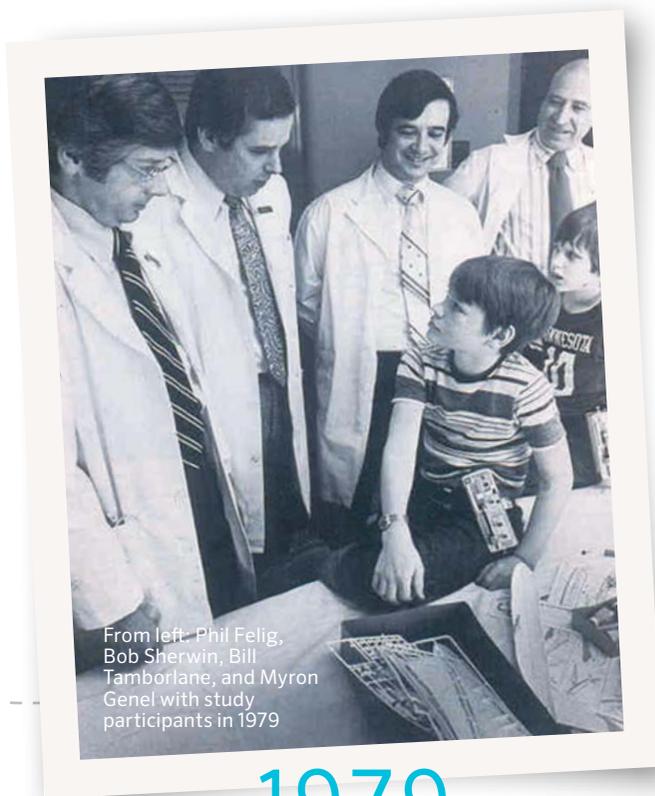


1982

The Food and Drug Administration (FDA) approves the **first synthetic human insulin**, Eli Lilly and Co.'s Humulin. Synthesizing insulin in a lab rather than relying on pancreases left over from the meat industry helps ensure a virtually unlimited supply.

1981

After being available in doctors' offices for the past 11 years, **blood glucose monitors are ready for home use.** The first blood glucose meter designed specifically for use by people with diabetes, the Ames Glucometer I, is introduced.



From left, Phil Felig, Bob Sherwin, Bill Tamborlane, and Myron Genel with study participants in 1979

1979

A *New England Journal of Medicine* study finds that blood glucose can be lowered to normal levels through the use of a **portable insulin infusion pump**, setting the stage for widespread pump therapy.

## 1989

The ADA publishes the “**Standards of Care for Patients With Diabetes Mellitus,**” setting guidelines for health care providers to use in clinical care of people with diabetes. These lay a foundation for quality and medical practitioner accountability in diabetes care and are updated annually by the Association.

## 1990

The **Americans with Disabilities Act** is signed into law, promoting equal opportunity and prohibiting discrimination against people with physical or mental disabilities, including diabetes.

## 1992

**Teddy Ryder**, who at age 5 was one of the first people to take insulin “extract” in 1922, becomes the first person to live for 70 years with diabetes.

## 1993

Results of the Diabetes Control and Complications Trial (DCCT) show that people with type 1 diabetes can **significantly lower** their risk of complications by keeping blood glucose levels as close to normal as possible.



## 1989

### **Steel Magnolias,**

probably the most famous film portrayal of a person with diabetes, is released.

While Julia Roberts’s character had pregnancy complications, many women with diabetes are able to have healthy pregnancies and babies.



## 1991

“King of Blues” **B.B. King** is diagnosed with type 2 diabetes and becomes a prominent spokesperson for awareness of the condition.

## 1998

The United Kingdom Prospective Diabetes Study (UKPDS) finds that tight blood glucose control can **prevent complications** in people with type 2 diabetes, supporting the results of the DCCT and solidifying the new course of treatment for people with both type 1 and type 2 diabetes.

## 1994

Glucophage (metformin) is **approved by the FDA.** It goes on to become the first-choice medication for most people with type 2 diabetes.



## 1999

A flood of new diabetes medicines comes out around the turn of the century: type 2 drug rosiglitazone (**Avandia**) in 1999, long-acting insulin glargine (**Lantus**) in 2000, injectables pramlintide (**Symlin**) and exenatide (**Byetta**) in 2005, and type 2 med sitagliptin (**Januvia**) in 2006.

## 1999

After winning Miss Virginia in 1998, **Nicole Johnson** goes on to win Miss America 1999, becoming the first Miss America to compete while wearing an insulin pump (and later inspiring Miss Idaho 2014, Sierra Sandison).

## .org

## 1996

The Association’s national website, **diabetes.org**, launches. It’s a one-stop shop for diabetes information and resources.

Insulin lispro (Humalog) is the first rapid-acting insulin.

## 1994

**Patti LaBelle** is diagnosed with type 2 diabetes and quickly becomes committed to healthy living and diabetes management, speaking out and helping others with diabetes do the same.

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2001

Not all “innovations” succeed. The **GlucoWatch Biographer**, the first noninvasive blood glucose monitor worn on the wrist, receives FDA approval in early 2001. It’s designed to give blood glucose readings without a single drop of blood. It doesn’t work well and is removed from the market in 2007.

2001

The Finnish **Diabetes Prevention Study** (DPS) shows for the first time that type 2 diabetes can be prevented through healthy eating and physical activity.

JANUARY

The **ADA relaxes the ban** on high-sugar foods and focuses on moderation, not deprivation.

2003

A federal ban preventing people who use insulin from **driving commercial vehicles** is lifted, although they must apply for an exemption. The policy change follows decades of advocacy work by the Association.



2000

**Gary Hall Jr.** competes in the Summer Olympics in Sydney, Australia. He takes home four medals, including a gold in the individual 50-meter freestyle. He goes on to win multiple medals at the 2004 Athens games. Also on the scene: Kris Freeman, a type 1 cross-country skier who will compete in every Olympic Winter Games between 2002 and 2014.

2005

It’s hard to pinpoint the exact birth date of the **diabetes online community** (DOC) on social media, but references go back to at least 2005; the Children With Diabetes website started in 1995. The DOC helps people from all over the globe learn from, connect with, and support each other via smartphone and computer. And—perhaps most important—it shows them that they are most definitely not alone.

2002

The U.S. **Diabetes Prevention Program** results reinforce the Finnish DPS: Adults at risk for type 2 diabetes can lower their risk by losing weight, eating a healthy diet, and being physically active.

2005

The FDA approves **exenatide**, the first drug in a new class of injectables for type 2 diabetes. It’s derived from a compound in the venom of the Gila monster and stimulates the body to produce insulin when blood glucose is too high. Interest in developing the drug was sparked by research conducted by John Eng, MD, and presented at the American Diabetes Association’s 1996 Scientific Sessions.

2006

The concept of **cardiometabolic risk**—how factors such as blood pressure and cholesterol play into your risk for type 2 diabetes and heart disease—gains traction. It’s not about just blood glucose anymore.

DECEMBER  
The **Epidemiology of Diabetes Interventions and Complications**

(EDIC) trial shows the effect of “metabolic memory”: Tight blood glucose control for a period of time helps you live a longer, healthier life with diabetes, even if you’re not always able to maintain close-to-normal levels beyond the initial tight-control period.



# 2007

Two years after his diagnosis, musician **Nick Jonas** of the Jonas Brothers goes public with his type 1 diabetes. Jonas soon begins working with prominent diabetes organizations to raise awareness and combat misperceptions about the disease.



Jonas, circa 2015

# 2010

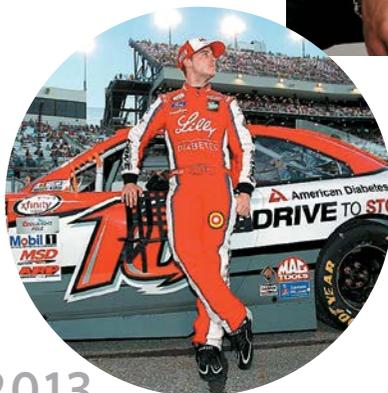
**Bret Michaels** is crowned the next “Celebrity Apprentice” by Donald Trump, raising both funds for and awareness of diabetes. Michaels, lead singer for the ’80s band Poison, was diagnosed with type 1 diabetes at age 6.

## MARCH

The **Affordable Care Act** is signed into law, significantly improving access to health insurance coverage for people with diabetes.

# 2012

*The New England Journal of Medicine* publishes a study showing that people with type 2 diabetes can go into remission after **bariatric surgery**. Although doctors have been performing these weight-loss surgeries since the 1950s, until now the procedure has been used only as a treatment for obesity.



# 2013

NASCAR driver **Ryan Reed** joins the Drive to Stop Diabetes campaign and races with type 1. Reed’s message? “Even when living with diabetes, accept no limits.”

## MAY

The Joslin Diabetes Center awards its first **80-Year Lifetime Achievement Award**.

## SEPTEMBER

The FDA approves **Medtronic’s MiniMed 530G With Enlite pump**, which introduces continuous glucose monitor (CGM) sensor-augmented threshold suspend technology to the United States. The pump—first to stop insulin delivery when glucose drops too low and alarms are ignored—comes one step closer to an artificial pancreas.

## JUNE

Approved by the FDA in 2014, **Afrezza**, Sanofi’s inhaled insulin, hits the market, giving people with diabetes a needle-free option for one type of insulin. This comes nine years after Pfizer’s Exubera, the first inhaled insulin, was discontinued after only 18 months.



# 2015

The FDA approves a **U-200 insulin pen**. The lispro concentrated insulin makes delivering large doses more comfortable and may improve absorption. This follows the launch of Toujeo, a concentrated U-300 form of insulin.



# 2014

With her insulin pump displayed prominently on her bikini, Miss Idaho, **Sierra Sandison**, makes headlines during the swimsuit portion of the Miss America competition.

**THANK YOU, REVIEWERS:** Richard Kahn, PhD, former chief scientific and medical officer for the American Diabetes Association; Virginia Peragallo-Dittko, RN, BC-ADM, CDE, FAADE, executive director of the Diabetes and Obesity Institute at Winthrop University Hospital; and David R. Smith, JD, American Diabetes Association Community Leadership Board member, for contributing to this article.

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