

The Burden Of Diabetes And The Promise Of Biomedical Research



American Diabetes Association®
Cure • Care • Commitment®

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Type 1 Diabetes

- Usually diagnosed in children and young adults (previously known as juvenile diabetes)
- The body does not produce insulin.

Type 2 Diabetes

- The most common form of diabetes—affecting 95% of people with diabetes.
- Either the body does not produce enough insulin or the cells fails to recognize insulin

Diabetes is Serious

It creates an increased risk for many serious complications:

- Heart disease and stroke (cardiovascular disease)
- Kidney damage (nephropathy)
- Blindness (retinopathy)
- Nerve damage
- Peripheral Vascular

A National Epidemic

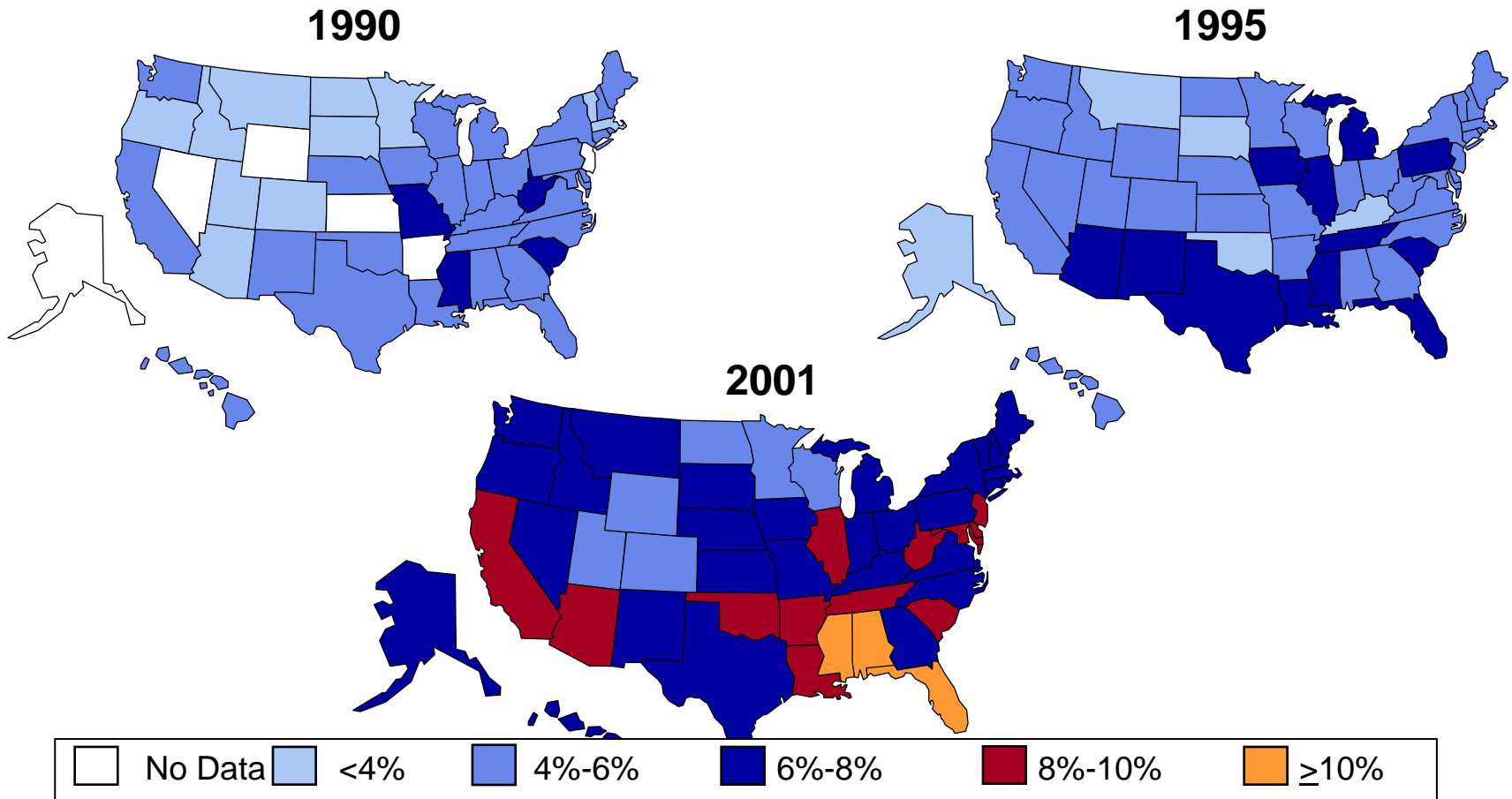
- Twenty-one million children and adults in the United States
- Another 54 million have pre-diabetes
- Growing at a rate of 8 percent per year
- One of the most prevalent chronic illnesses among children
- One in three Americans, one in two minorities born since 2000 will develop diabetes
- The fifth leading cause of death by disease

Source: National Diabetes Fact Sheet, Centers for Disease Control and Prevention, 2005

Getting Worse, Not Better

Diabetes Trends Among Adults in the U.S. (Includes Gestational Diabetes)

BRFSS, 1990, 1995 and 2001



While the death rates due to heart disease and cancer have declined, the death rate due to diabetes continues to **increase**

Diabetes is Costly

- **NOW: at least \$132 billion a year**
- **TOMORROW:**
 - **strained family budgets**
 - **bankrupt employer health care systems**
 - **tremendous public health burden on state and local governments**

▪ **New Medicines**

- **To regulate blood glucose**
- **Overcome insulin resistance**
- **Stimulate secretion of insulin from the pancreas**
- **Regulate appetite, promoting weight loss**

- **New forms of insulin**
 - **Longer lasting**
 - **Rapid acting**

■ **New Devices**

- Sensor device that can be implanted under the skin. Records glucose levels every few minutes.
- The sensor also interacts with the patient's glucose meter, providing a real time warning when glucose is low, while also providing trend data.
- The next big step: link a sensor with an insulin loop, an artificial pancreas

- **New Knowledge**
- **The data we need to develop standards of care**
- **We know what we need to do to prevent the serious complications**
- **Better insight into obesity risk factors, obesity control**

- **The Cutting Edge**
- **Islet cell transplantation**
- **Understanding the ‘metabolic syndrome’, pre-diabetes syndrome**

Diabetes is Controllable

- **Glucose control**
- **Blood pressure control**

Diabetes is Controllable

- **Preventive care practices for eyes, kidneys, and feet:**
 - reduce severe vision loss
 - reduce foot amputation rates
 - reduce the decline in kidney function

- We can do many things to prevent and control diabetes:
 - Nutrition
 - Exercise
 - Weight loss
 - Medication
 - Diabetes self management training
 - Community support

Getting Worse, Not Better

- The new technologies focus on treating the symptoms
- They are not a cure
- Uniform access to new technology, medications, standards of care and funding are lacking

Getting Worse, Not Better

- For the past three years, no increase in the two main streams of discretionary funding
 - The Division of Diabetes Translation (DDT) under the Centers for Disease Control (CDC)
 - The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) under the National Institutes of Health (NIH)

Getting Worse, Not Better



The status quo is not an option