“Diabetes in SLC States”

Southern Leadership Conference
Lexington, KY
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What is diabetes?

• High blood sugar (glucose)
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• Type 1 diabetes
  – Insulin injections required to prevent death from ketoacidosis
Diabetes: The early days

Type 1 diabetes (c. 1920). Children would develop ketoacidosis. They could be resuscitated temporarily with fluids, carbohydrate restriction. But they would inevitably become cachectic and die.

1921: Frederick Banting, MD, and Charles Best discovered insulin and started saving lives of people with a horrible disease.
What is diabetes?

- High blood sugar (glucose)
- Type 1 diabetes
  - Insulin injections required to prevent death from ketoacidosis
- Type 2 diabetes
  - 90% of all diabetes
  - Genetic
  - Exacerbated by obesity
Diabetes: Type 1 vs Type 2

- **Type 1**
  - <10% of diabetes
  - Younger (usually <35)
  - Normal weight
  - Rapid onset, ketoacidosis
  - Genetic: ++
  - Treatment: insulin

- **Type 2**
  - >90% of diabetes
  - Older (usually >30)
  - Usually overweight/obese
  - Slow onset
  - Genetic: +++
  - Diet, exercise, weight loss, medications
Obesity Trends* Among U.S. Adults

(*BMI ≥30, or about 30 lbs. overweight for 5’4” person)
Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.
Diagnosed diabetes has tripled in 20 years

Number (in Millions) of Civilian, Non-Institutionalized Persons with Diagnosed Diabetes, United States, 1980–2009 (CDC)

(another 7 million undiagnosed)
County-level Estimates of Diagnosed Diabetes among Adults aged ≥ 20 years:
United States 2004
County-level Estimates of Diagnosed Diabetes among Adults aged ≥ 20 years:
United States 2005
County-level Estimates of Diagnosed Diabetes among Adults aged ≥ 20 years: United States 2006

Percent
- 0 - 6.5
- 6.6 - 8.0
- 8.1 - 9.4
- 9.5 - 11.1
- ≥ 11.2

www.cdc.gov/diabetes
County-level Estimates of Diagnosed Diabetes among Adults aged ≥ 20 years: United States 2007

Percent

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www.cdc.gov/diabetes
County-level Estimates of Diagnosed Diabetes among Adults aged ≥ 20 years: United States 2008
County-level Estimates of Diagnosed Diabetes among Adults aged ≥ 20 years:
United States 2010

[Map showing county-level diabetes prevalence]
County-level Estimates of Diagnosed Diabetes among Adults aged ≥ 20 years:
United States 2011
Complications of Diabetes

**Macrovascular**
- Brain
  - Cerebrovascular disease
  - Transient ischemic attack
  - Cerebrovascular accident
  - Cognitive impairment
- Heart
  - Coronary artery disease
  - Coronary syndrome
  - Myocardial infarction
  - Congestive heart failure
- Extremities
  - Peripheral vascular disease
  - Ulceration
  - Gangrene
  - Amputation

**Microvascular**
- Eye
  - Retinopathy
  - Cataracts
  - Glaucoma
- Kidney
  - Nephropathy
  - Microalbuminuria
  - Gross albuminuria
  - Kidney failure
- Nerves
  - Neuropathy
  - Peripheral
  - Autonomic
Chronic complications of diabetes

- Blindness
- Kidney disease
- Nerve damage
- Cardiovascular disease:
  - Stroke
  - Heart attack
  - Loss of circulation in arms and legs
- Amputation
UNDIAINED DIABETES

Type 1
- 18.8% of children with type 1 present with DKA
- 39.7% if < 3 years

38.8% of those had clinic visit the week before presentation

Type 2
- ≥ 6 years from onset until diagnosed

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Bui et al J Pediatr 2010
Porta et al Diabetes Care, 2014
THE EPIDEMIC OF THE 21st CENTURY

- 7th leading cause of death
- 46% of adults undiagnosed
- Death every 6 seconds from diabetes
- $7 trillion in healthcare costs over next 10 years

1980: 108 million people (5 million diagnosed)
2015: 415 million people (30 million diagnosed)
2040: 622 million people (45 million diagnosed)

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www.cdc.gov/diabetes
Who has diabetes?
Type 1 diabetes
Type 2 diabetes
WASHINGTON — At a time when many are focused on the deaths of more than 1,000 people due to Hurricane Katrina and nine people from Hurricane Rita, the head of the National Governors Association is warning of a far bigger ongoing national disaster: 600,000 Americans dying prematurely each year from obesity, lack of exercise, and smoking.

Arkansas Gov. Mike Huckabee is leading a crusade by the nation’s governors to get the American people and the news media to pay heed to what the governors see as a catastrophe.

It’s not that Huckabee is oblivious to the pain caused by the hurricanes. In fact, he left Washington after a speech at the National Press Club Friday to fly back to Arkansas to help the state cope with flooding expected from Hurricane Rita.
#NoMoreHiding
DECREASED MORBIDITY AND MORTALITY

Diabetes is an expensive disease

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GREAT PUBLIC HEALTH ACHIEVEMENTS

In United States since 1900

- Vaccination
- Control of infectious diseases
- Decline in deaths from coronary heart disease and stroke
- Some cancers curable
- Recognition of tobacco use as a health hazard
- Safer workplaces
- Safer and healthier food
- Healthier mothers and babies
- Family planning
- Fluoridation of drinking water
- Motor vehicle safety
- HIV prevention and treatment

DIABETES PREVENTION
CURE OF DIABETES

When will these make the list?

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Pay me now, or pay me later
Economic cost of diabetes

$245 billion in 2012

• Direct costs: $176 billion
  – 51% inpatient hospital care and residential stay
  – 18% medications to treat complications
  – 12% diabetes medications and supplies
  – 9% physician office visits

• Indirect costs: $69 billion
  – Unable to work ($21.6 billion)
  – Reduced productivity and absenteeism ($26 billion)
  – Early mortality ($18 billion)

Data from American Diabetes Association
The staggering costs of diabetes in America

Nearly 30 million Americans have diabetes.

$1 in $3 Medicare dollars is spent caring for people with diabetes.

Diabetes and prediabetes cost America $322 billion per year.

86 million Americans have prediabetes.

$1 in $5 health care dollars is spent caring for people with diabetes.

Today, 3,835 Americans will be diagnosed with diabetes. Today, diabetes will cause 200 to undergo amputation, 136 to enter end-stage kidney disease treatment and 1,795 to develop severe retinopathy that can lead to vision loss and blindness.

Learn how to fight this costly disease at diabetes.org/congress