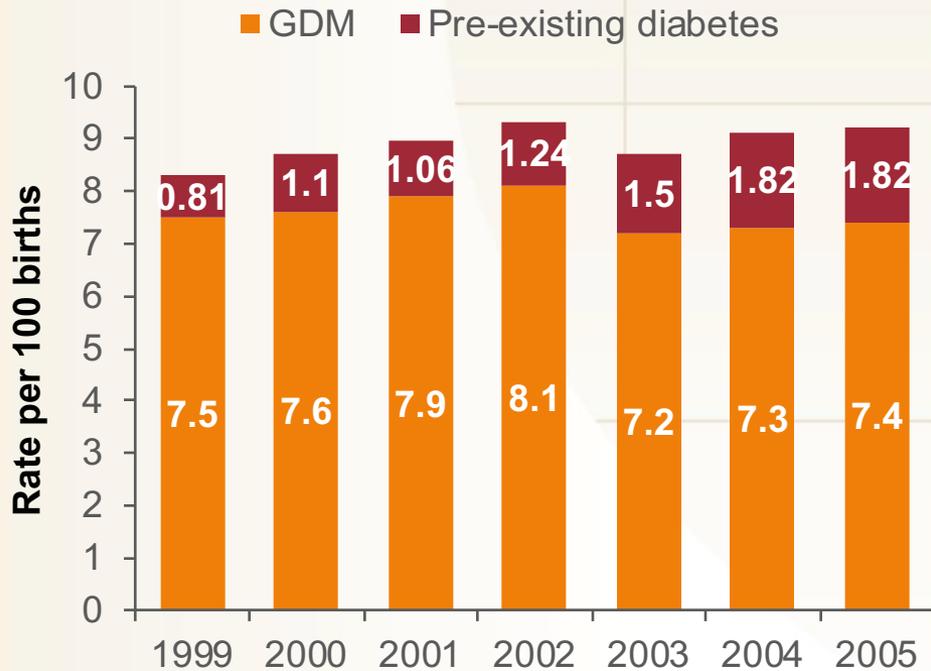


Burden of Diabetes in Pregnancy

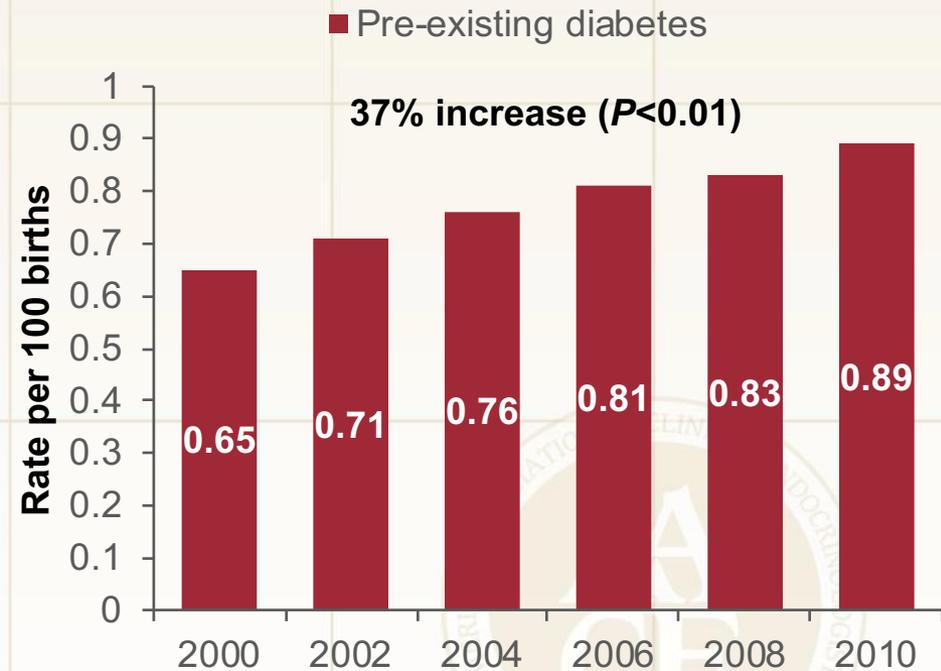


Diabetes in Pregnancy Is Increasing

Single-State Retrospective Study*¹
(N=209,287 screened pregnancies)



19-State Retrospective Study†²



*Kaiser Permanente Hospitals, Southern California.

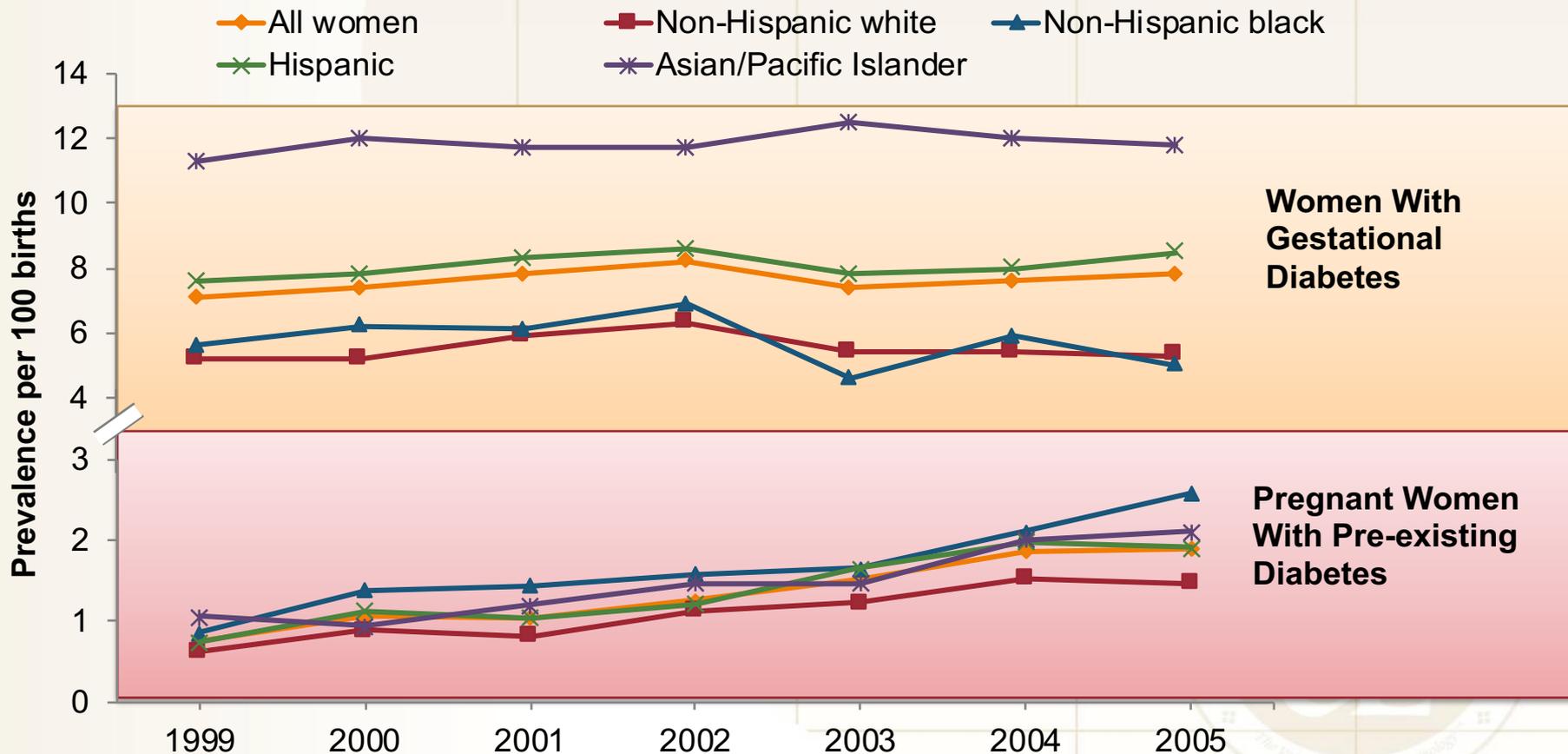
†AHRQ inpatient database, 19 U.S. states.

AHRQ, Agency for Healthcare Research and Quality; GDM, gestational diabetes mellitus; T1D, type 1 diabetes; T2D, type 2 diabetes.

1. Lawrence JM, et al. *Diabetes Care*. 2008;31:899-904. 2. Bardenheier BH, et al. *Am J Prev Med*. 2015;48:154-161.

Pregnancy Complicated by Pre-existing Diabetes, But Not GDM, Is Rising

Kaiser-Permanente Study
(N=175,249*)



*Women with 209,287 singleton deliveries of 20 weeks' gestation.

Lawrence JM, et al. *Diabetes Care*. 2008;31:899-904.

Risks Associated With Diabetes in Pregnancy

Maternal Risks

- Preeclampsia
- Increased caesarean delivery
- Subsequent development of T2D
- 30% maternal mortality rate
- Progression of chronic complications of diabetes
- Gestational hypertension
- Hypoglycemia
- Infection (eg, pyelonephritis)
- Ketoacidosis
- Polyhydramnios
- Preterm labor
- Seizures
- Doubled spontaneous abortion risk
- Maternal birth weight <4 lb 7 oz

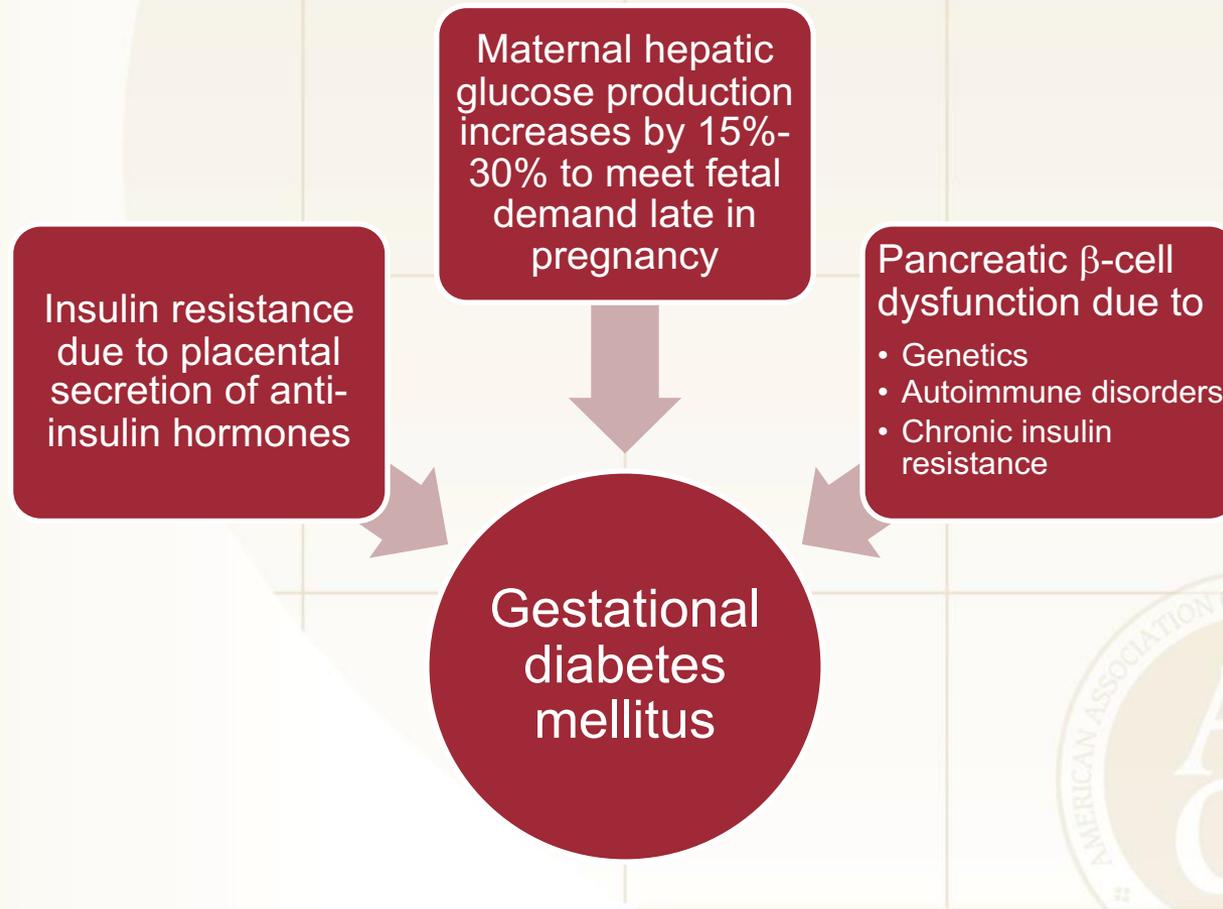
Fetal Risks

- Birth injuries
- Childhood obesity
- Hyperbilirubinemia
- Hypoglycemia
- Macrosomia
- Shoulder dystocia
- Respiratory distress syndrome
- Premature birth
- Increased cord-blood serum C-peptide levels
- Abnormal birth weight (low or high)
- Increased risk of T2D and/or GDM later in life
- Increased congenital malformations

GDM, gestational diabetes mellitus; T2D, type 2 diabetes.

Committee on Obstetric Practice. ACOG. 2011;504:1-3. Jovanovic L. Insulin therapy in pregnancy. In: Leahy JL, Cefalu WT, eds. *Insulin Therapy*. New York, NY: Marcel Dekker Inc; 2002:139-151. Jovanovic L, Peterson CM. *Diabetes Care*. 1982;5:24-37. Handelsman YH, et al. *Endocr Pract*. 2015;21(suppl 1):1-87. Metzger BE, et al. *Diabetes Care*. 2007;30:S251-S60. Jovanovic L, et al. *Mt Sinai J Med*. 2009;76:269-280. Castorino K et al. *Curr Diabetes Rep*. 2012;12:53-59. 8. ADA. *Diabetes Care*. 2015;38(suppl 1):S77-S79. Inness KE, et al. *JAMA*. 2002;287:2534-2541.

Pathophysiology of Gestational Diabetes Mellitus



GDM: Etiology and Risk Factors

Etiology

- Hormonally induced insulin resistance
- Leads to impaired glucose tolerance
- Eventually progresses to diabetes

Risk factors

- Obesity
- Previous history of GDM
- Prior delivery of a large baby (>9 lbs)
- Glycosuria
- History of diabetes in a first-degree relative

Risk of future T2D

- 5%-10% of women with GDM develop T2D immediately postpartum
- 35%-60% chance of T2D over next 10-20 years

Cost-Effectiveness of New Screening Criteria

- International Association of the Diabetes and Pregnancy Study Groups (IADPSG) has proposed new screening criteria for gestational diabetes mellitus (GDM)
 - For every 100,000 women screened under the updated criteria, 6,178 quality-adjusted life-years (QALYs) will be gained at a cost of approximately \$126 million
 - Compared with current GDM screening practices, the new IADPSG strategy has an incremental cost-effectiveness ratio (ICER) of \$20,336 per QALY gained

