Background

- **Problem:** Anemia, Iron Deficiency (ID), and Iron Deficiency Anemia → Major Morbidity in Pregnant and Non-Pregnant Women [1]

Current screening recommendations for ID & IDA in WRA

No screening recommendations

US Preventive Services Task Force [2]

The Centers for Disease Control and Prevention [3]

Screening every 5-10 years

- **Hypothesis:** The prevalence of anemia, ID, and IDA has increased.
- **Objective**: Evaluate temporal trends in anemia, ID, and IDA between 1999 and 2023 among US WRA.

1. Benson, Anaesthesia, 2021
2. USPSTF, JAMA 2024
3. CDC, MMWR1998

Study Design & Methods

Data Source: 11 National Health and Nutrition Examination Survey (NHANES) cycles (1999-202

Inclusion: Nonpregnant women of reproductive age (WRA) aged 20-44 years

Exclusion: Missing data, inflammation, kidney or liver dysfunction

Outcomes: Anemia (Hb< 12 g/dl); ID (Ferritin <15 ng/ml); IDA (Hb <12 g/dl & Ferritin <15 ng/ml)

Study Period:

Statistical Analyses: Trends – Logistic regression, adjusting for demographic factors.

Survey period = continuous variable, with sample weights per NHANES guidelines

Results

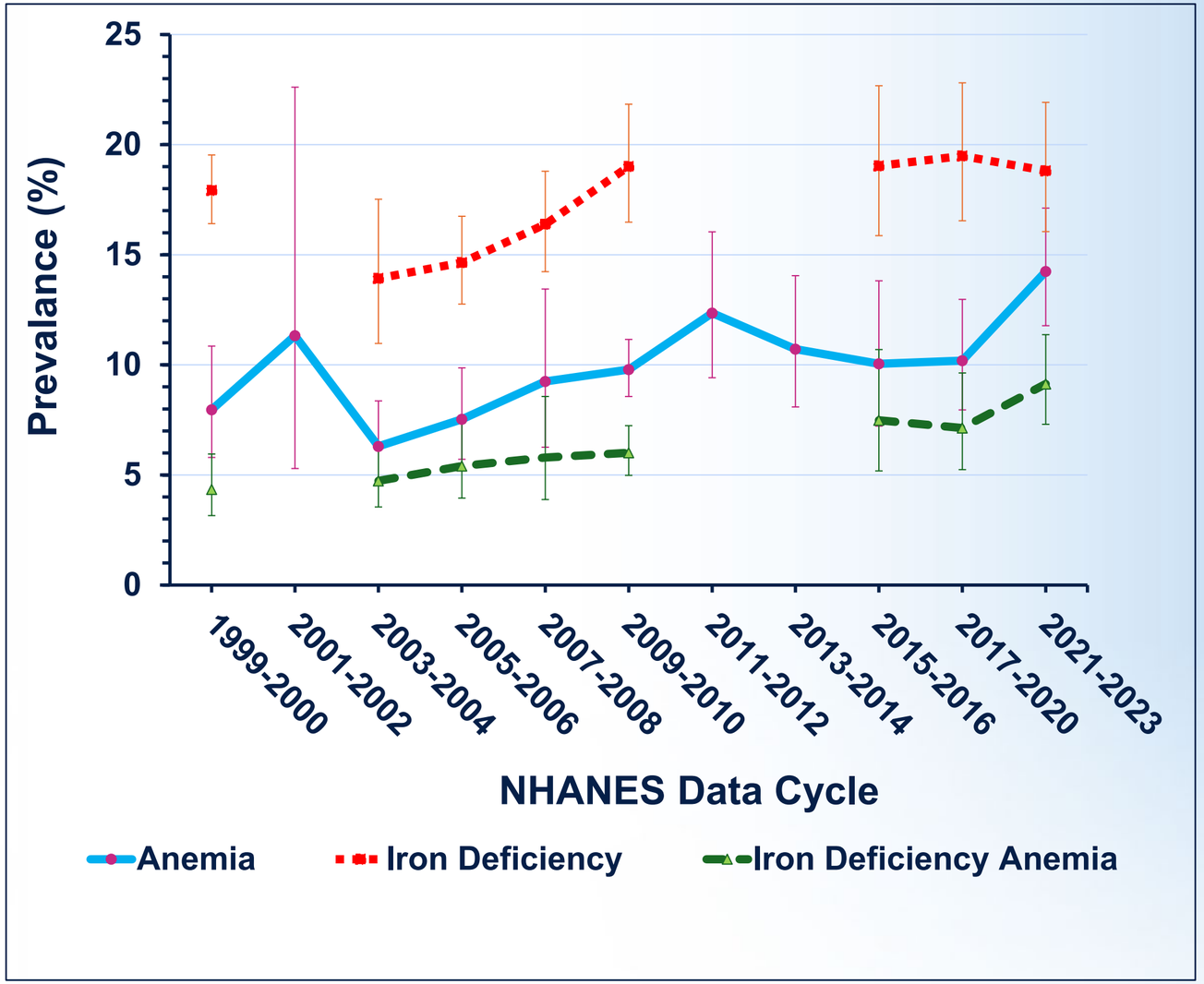
- **N = 8,200 WRA (extrapolates to 3.5 million WRA)**

Between 1999-2000 and 2021-2023:

- **Anemia prevalence: 8.0% to 14.2% (*p*=0.001)**
  - Non-Hispanic Black: 23.0% to 38.7% (*p*=0.001)
  - Hispanic: 8.5% to 14.8% (*p*=0.10)
  - Non-Hispanic white: 5.1% to 5.6% (*p*=0.75)
- **ID prevalence: 17.9% to 18.8% (*p*=0.60)**
- **IDA prevalence: 4.3% to 9.1% (*p*< 0.001)**

- **Odds of Anemia highest – Black WRA compared to White**
  - Adjusted OR: 6.34, 95% CI: 5.36–7.49

Prevalence and trends of anemia, iron deficiency, and iron-deficiency anemia in non-pregnant US women of reproductive age: NHANES 1999-2023



Conclusion

- **Main Findings:**
  - Substantial increase - Anemia and IDA prevalence in the U.S over 20 years
  - Persistent disparities - anemia
- **Study Strengths:**
  - Large sample size; 20 years of data – track temporal trends
  - Generalizability: US civilian population
- **Limitations:**
  - Causes anemia, ID, and IDA – unclear
- **Take homes:**
  - Need for updated anemia, ID, and IDA guidelines for WRA
  - Research needed – reduce disparities among WRA