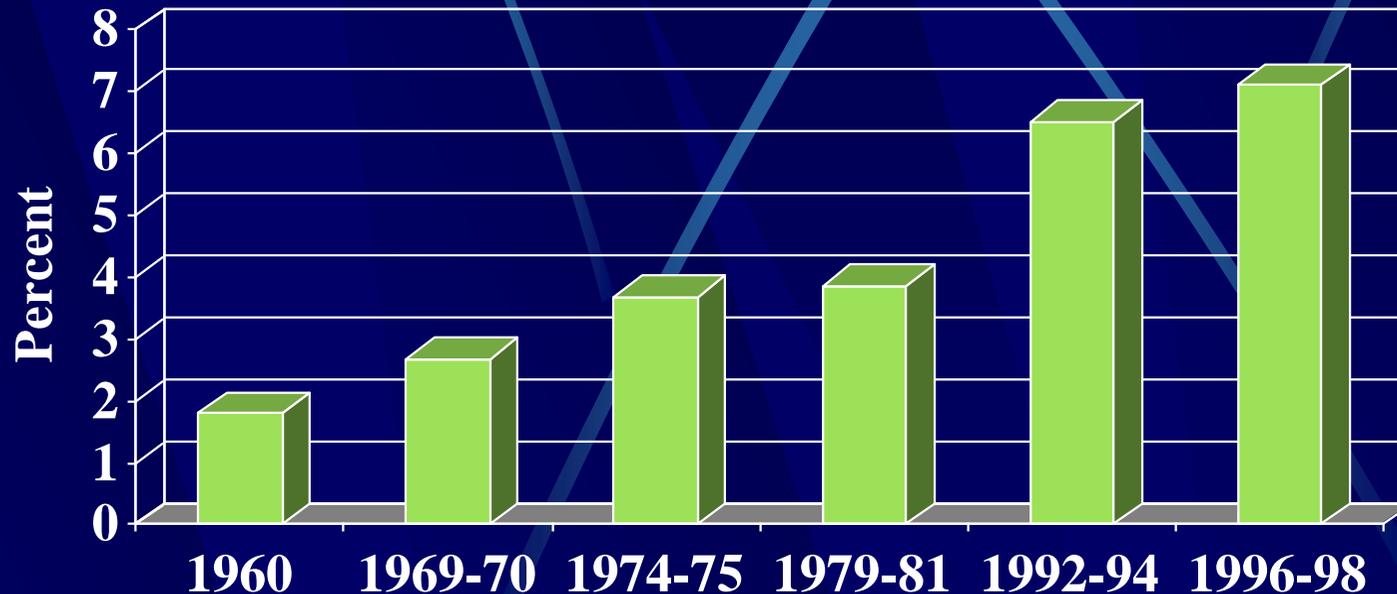


# Growing Epidemics of Chronic Conditions in Childhood



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# Children and Adolescents with Limitation of Activity



Newacheck, NHIS Analyses

# Typical Chronic Conditions

● Cystic fibrosis	● 22,500
● Spina bifida	● 60,000
● Sickle cell anemia	● 37,500
● Hemophilia	● 7,500

# **New Epidemics:**

***Mainly among school-age children  
and youth***

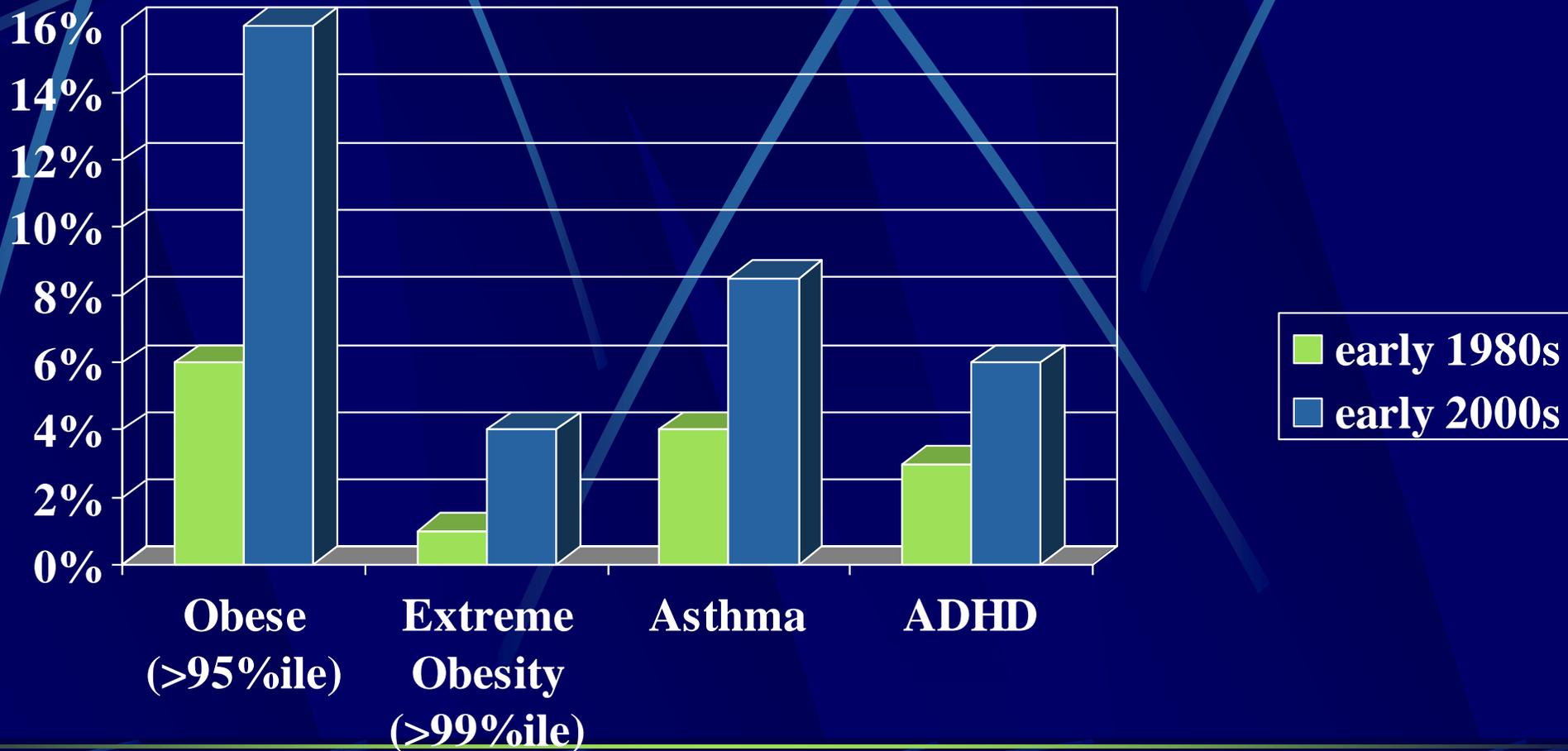
● Obesity	● 11,250,000*
● Asthma	● 5,250,000
● ADHD	● 4,000,000
● Depression	● 3,200,000
● Autism Spectrum Disorder	● 500,000

*\*population estimates, early 2000s*

# Growth in Rates of Chronic Conditions

- 1960-1980: Improvements in survival led to increases in rate of a number of chronic conditions (>80% survival in 1980; >95% survival currently)
- Marginal impact of newer conditions (eg, VLBW, *in utero* toxins, AIDS)
- 1980-now: New epidemics of common chronic conditions

# Growth of Child and Adolescent Health Conditions, 1980-2000



# Long-term Implications

- Major (public) health burdens from
  - Rising cardiovascular disease (overweight and diabetes)
  - Increased pulmonary disability
  - Higher rates of mental health conditions
- Decreased workforce participation and quality of life
- Increased reliance on disability programs

# Childhood Chronic Conditions Increasing Prevalence

Parallel developments have led to dramatic increases in childhood chronic conditions:

- Amazing biomedical advances
  - Children with chronic conditions live longer (eg, CF, leukemia)
  - More children survive (eg, NICU, surgical)
- Regressive social changes

# Changes in Children's Lives

- Genetics
  - Many conditions have clear genetic disposition, requiring environmental triggers for recognition or manifestation
  - But, hard to postulate genetic drift
- Changing physical (and toxic) environments and the cleanliness hypothesis
- Children's social environments (and opportunities for pediatric counseling)

# Changing Children's Environments

- Parenting and parent stress
- TV and other media
- Physical activity
- Diet

# Trajectories of Chronic Conditions

- Three cohorts of children ages 2-8 years followed for six years
- 1988, 1994, and 2000 comparisons
- 40-50% of children with chronic conditions in 1988 do not have them in 1994 (same in 2000)
- >60% of those with chronic conditions in 1994 (or 2000) did not have them six years earlier
- Increased rates over 12 years

*VanCleave, Gortmaker, Perrin, JAMA, in press*

# Autism Prevalence

- National Survey of Children's Health 2007
- Parent report of physician diagnosis of autism spectrum disorder, PDD, Asperger's
- If ever diagnosed, does child have it now

# Autism Rates

- 110/10,000 children
- Male rates 4X those for female
- Lower rates among Black and multiracial children
- 40% of those who had ever had diagnosis no longer had it
  - Much higher rates of “loss” among Black children

# Public Health Implications

- Much of increase in autism rates may reflect increased ascertainment and awareness, but does autism fit into other increasing epidemics?
- Dynamic nature of these conditions (esp., mental health) indicates
  - Need for longitudinal surveillance
  - Importance of prevention
  - Importance of early intervention

# Contact Information

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