

# **A glimpse at new vision data from the 2011-2012 National Survey of Children's Health**

**Kathleen S. O'Connor, MPH  
Centers for Disease Control and Prevention  
National Center for Health Statistics  
Hyattsville, MD**

**Presented by John Crews, DPA  
Centers for Disease Control and Prevention  
Vision Health Initiative  
National Center for Chronic Disease Prevention and Health Promotion  
Atlanta, GA**

**Prevent Blindness America's  
Second Annual Summit on Vision & Eye Health  
Washington DC  
June 18, 2013**

## Disclaimer

Kathleen S. O'Connor is solely responsible for the findings and conclusions in this presentation, which do not necessarily represent the official position of:

National Center for Health Statistics (NCHS),  
Centers for Disease Control and Prevention (CDC)



# Agenda

- ❑ **Data source:**
  - 2011 - 2012 National Survey of Children's Health (NSCH)
- ❑ **Prevalence estimates of vision testing in infants, preschoolers, & kindergarteners 0 – 5 years old (YO)**
- ❑ **Additional examples of research questions you can answer**
- ❑ **Website to facilitate data access & use**
  - Data Resource Center for Child and Adolescent Health

**DATA SOURCE:  
2011-2012 NATIONAL SURVEY OF  
CHILDREN'S HEALTH**

# **Data source: 2011-2012 National Survey of Children's Health (NSCH)**

- ❑ **Survey funder: Health Resources and Services Administration, Maternal and Child Health Bureau (MCHB)**
- ❑ **Conducted by: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS)**
- ❑ **Large population-based representative household survey**
  - **Conducted detailed interviews of 95,677 children**
  - **Telephone data collection with parent-guardian respondent**
- ❑ **National and state estimates**
- ❑ **New questions on vision screening and location**
- ❑ **Rich source of covariates**

# Vision content in the 2011-2012 NSCH

## □ Asked about all children 0 – 17 years

- Was child ever diagnosed by a doctor or other health care provider with vision problems that cannot be corrected with standard glasses or contact lenses
- Age at diagnosis of vision problems
- Does child have current vision problems
- Severity of current vision problems (mild, moderate, severe)
- Has child had vision tested with pictures, shapes, or letters
  - < 5 years old: Ever
  - 5+ years old: During the past 2 years
- Kind of place(s) where child had his/her vision tested
  - *Mark all that apply:* Eye doctor or eye specialist (ophthalmologist, optometrist); Pediatrician or other general doctor; Clinic or health center; School; Other)
- Unmet need for vision care (past 12 months)

## **Analyses:**

### **Prevalence of vision testing by two age ranges**

- ❑ Examined proportion of children who ever had their vision tested with pictures, shapes, or letters**
  - ❑ Age ranges that correspond to screening recommendations:
    - ❑ US Preventive Services Task Force (3 - 5 years)
    - ❑ Healthy People 2020 (0 - 5 years)
  
- ❑ Identified selected health & demographic factors that predicted receipt of vision testing**
  
- ❑ Analytic sample:** N = 29,997 (0 – 5 years old YO)

# Covariates

## ☐ Health & health status

- Any health insurance coverage (global measure; any private or public coverage)
- Children with Special Health Care Needs (CSHCN) status
- Premature birth

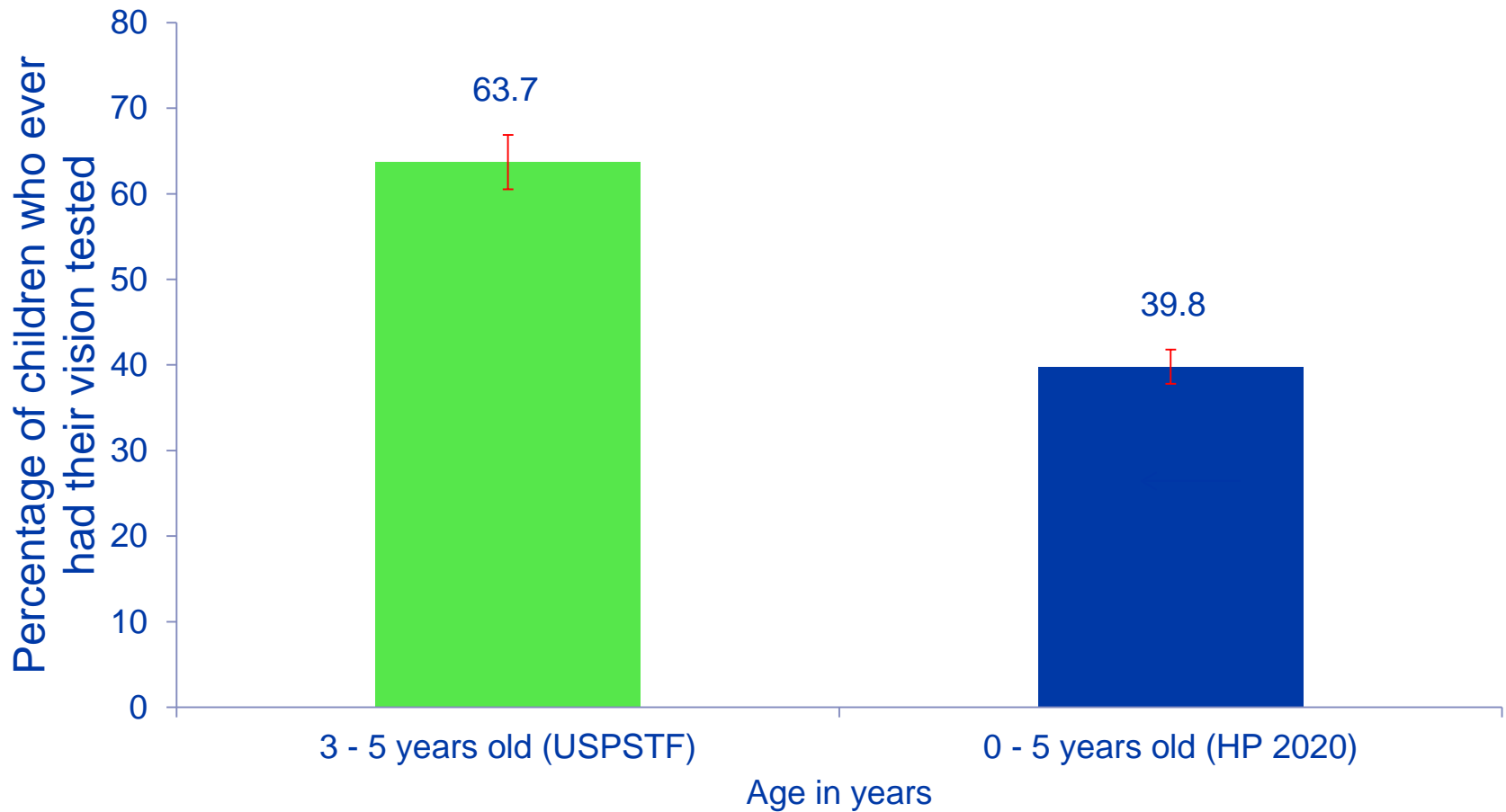
## ☐ Sociodemographic & other

- Child's race/ethnicity
- Combination of total family income and family size, compared to the DHHS Federal poverty level guidelines (FPL)
- Child's age at the time of the telephone interview
- Child's gender
- Highest education level achieved by mother, father in household
- Derived language variable: Primary language spoken in the household & language of interview
- Child is cared for by a non-relative each week for > 10 hours (child care)



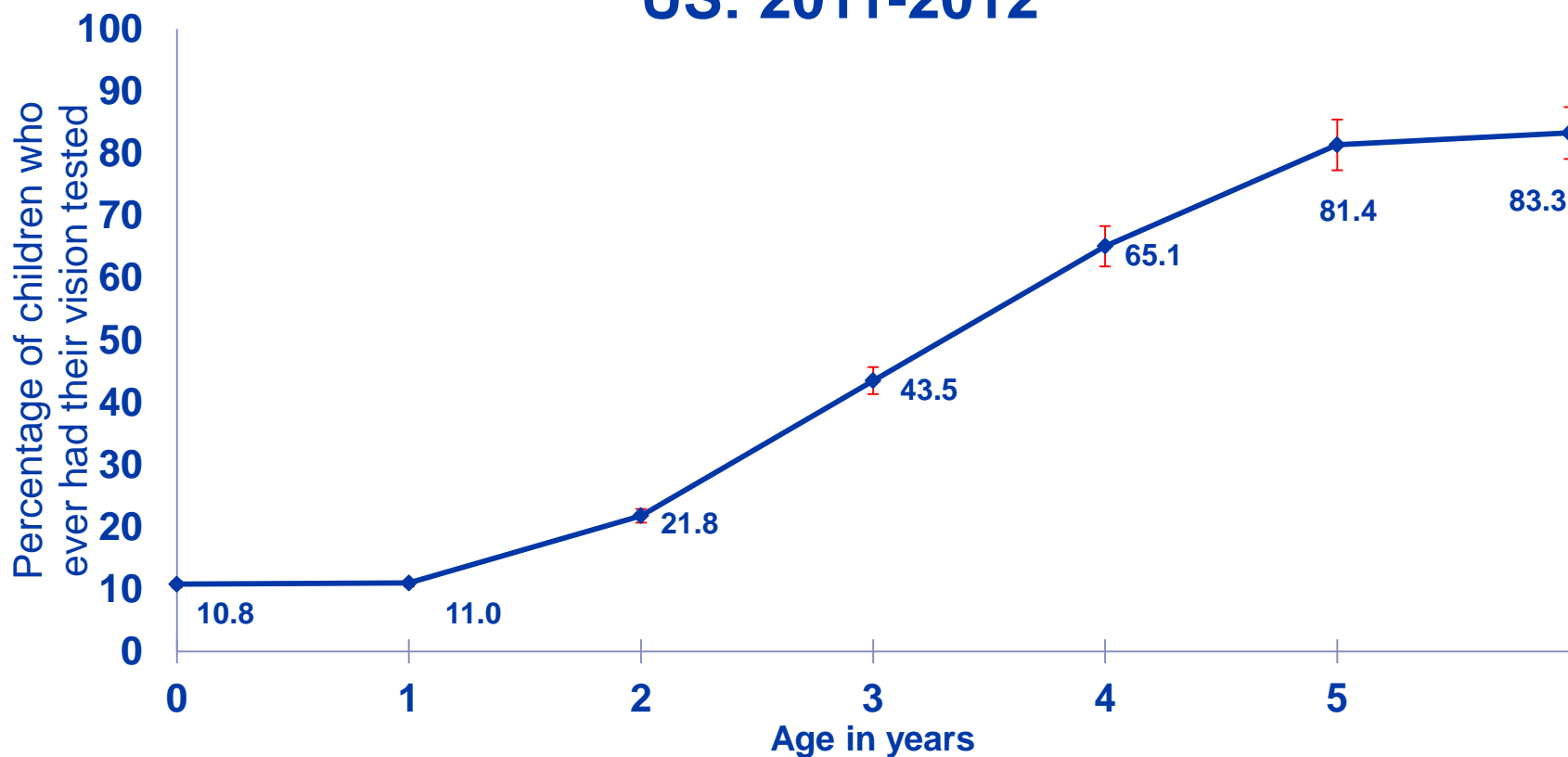
# **SELECTED RESEARCH FINDINGS: SOCIODEMOGRAPHIC**

## Vision testing rates varied significantly by the child's age



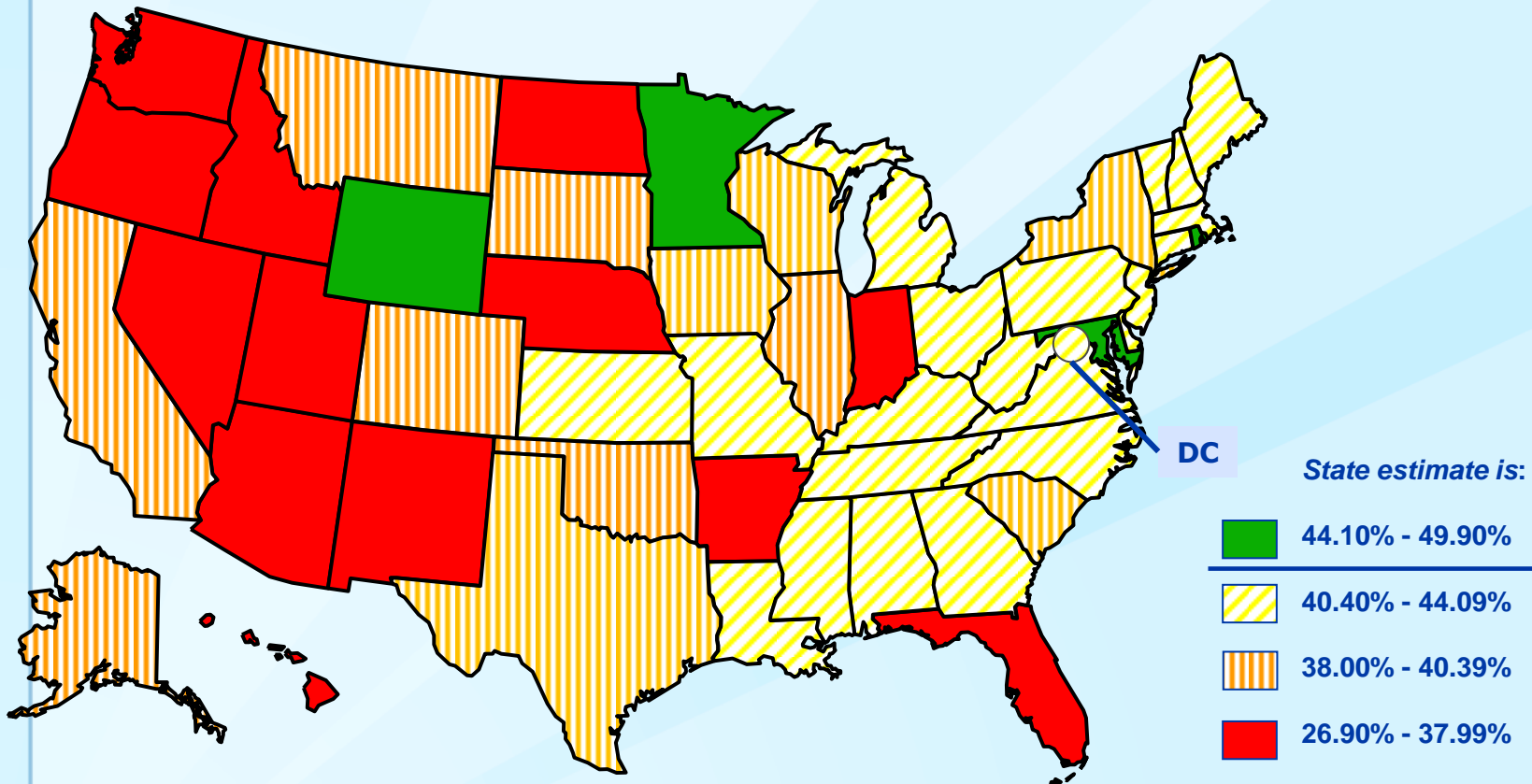
Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health (NSCH), 2011-2012

# Percentage of children who ever had their vision tested with pictures, shapes, or letters by single year of age, US: 2011-2012

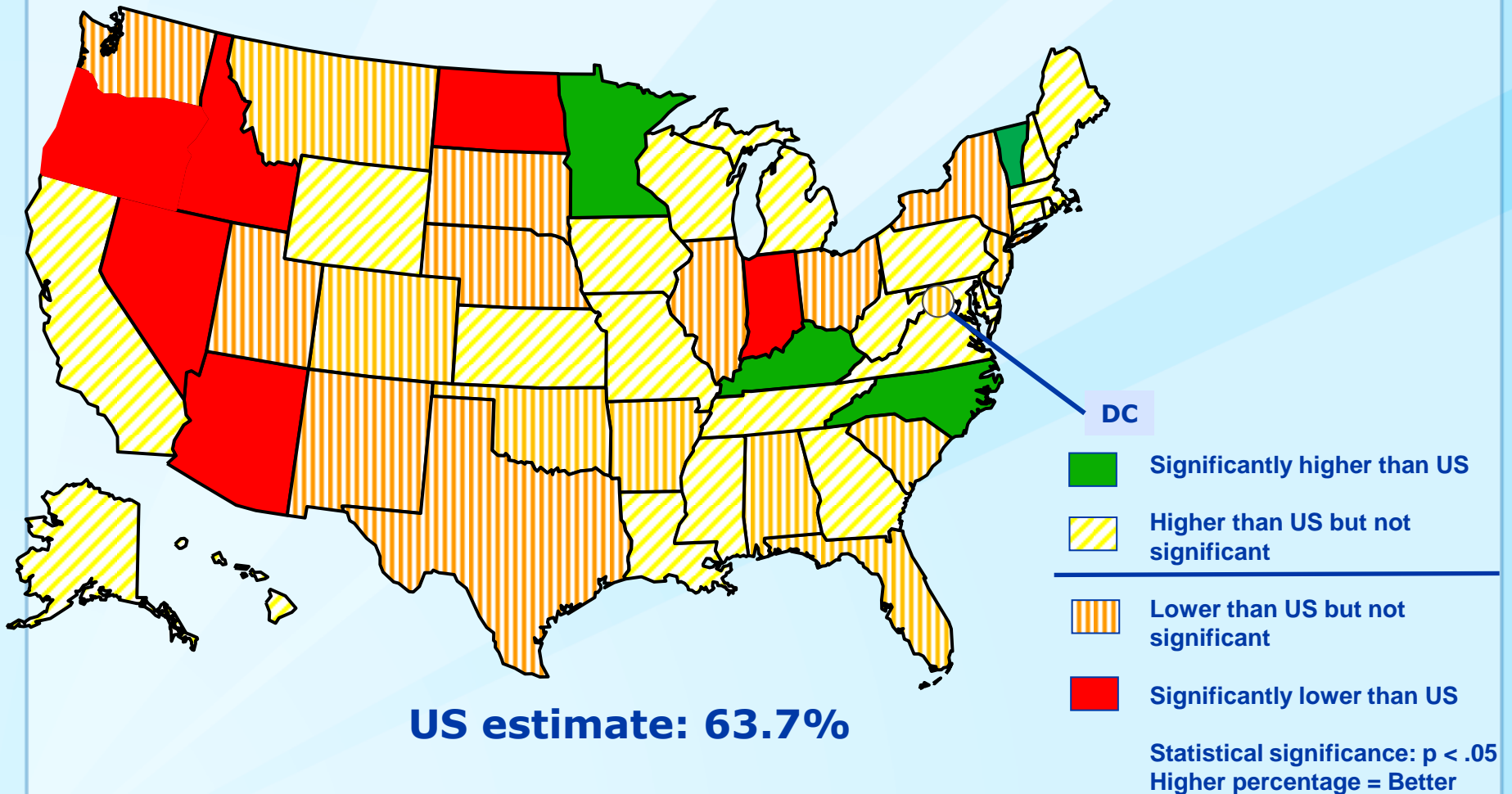


Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health (NSCH), 2011-2012

Vision testing rates for 0 – 5 year olds in five states differ significantly between that state estimate & the national HP 2020 target: Arizona, Idaho, Nebraska (lower) Maryland, Minnesota (higher)

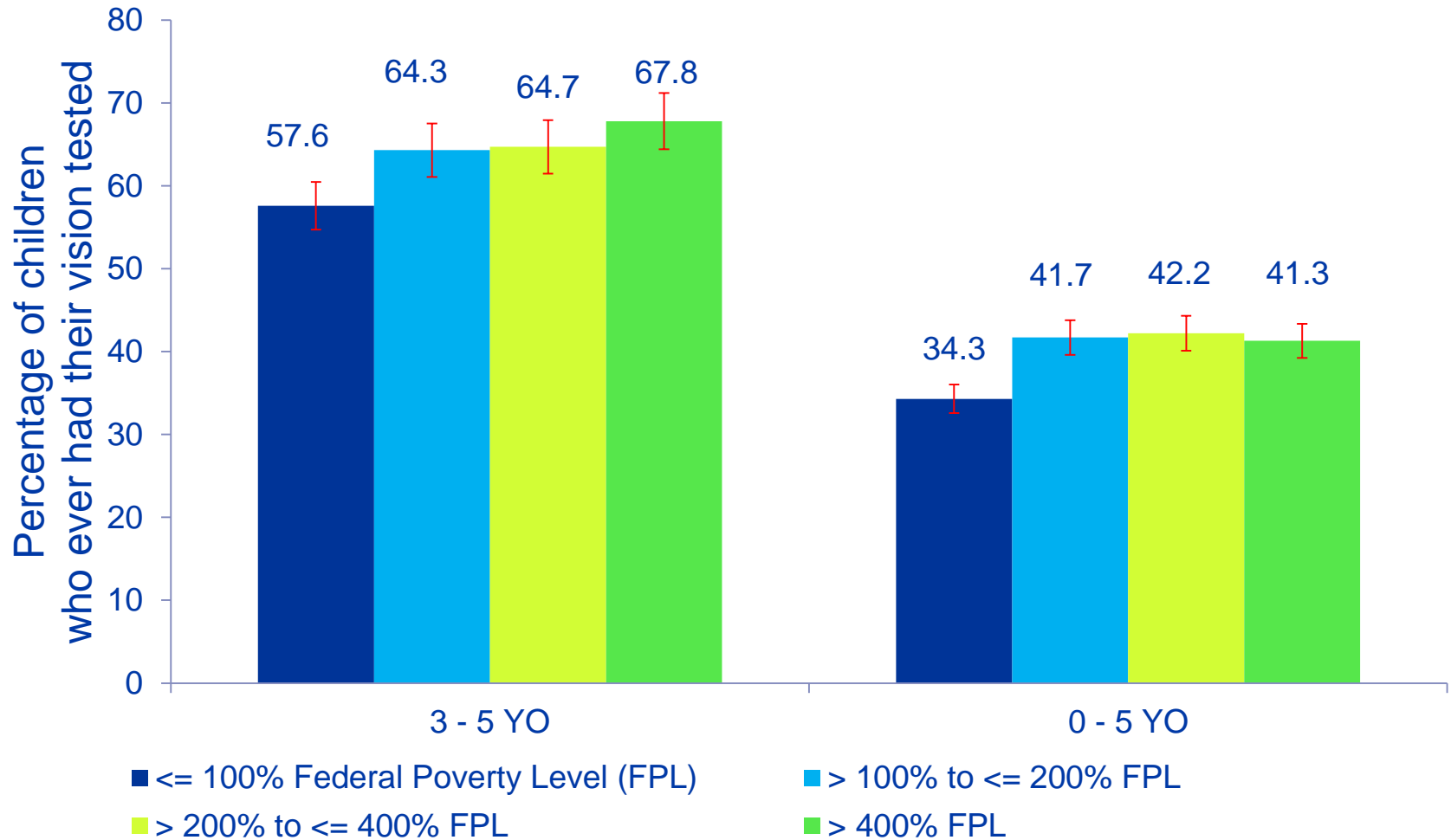


# Comparison of percentage point differences between state & US estimates for children aged 3 - 5 years who ever had their vision tested with pictures, shapes, or letters as of 2011-2012 (USPSTF)



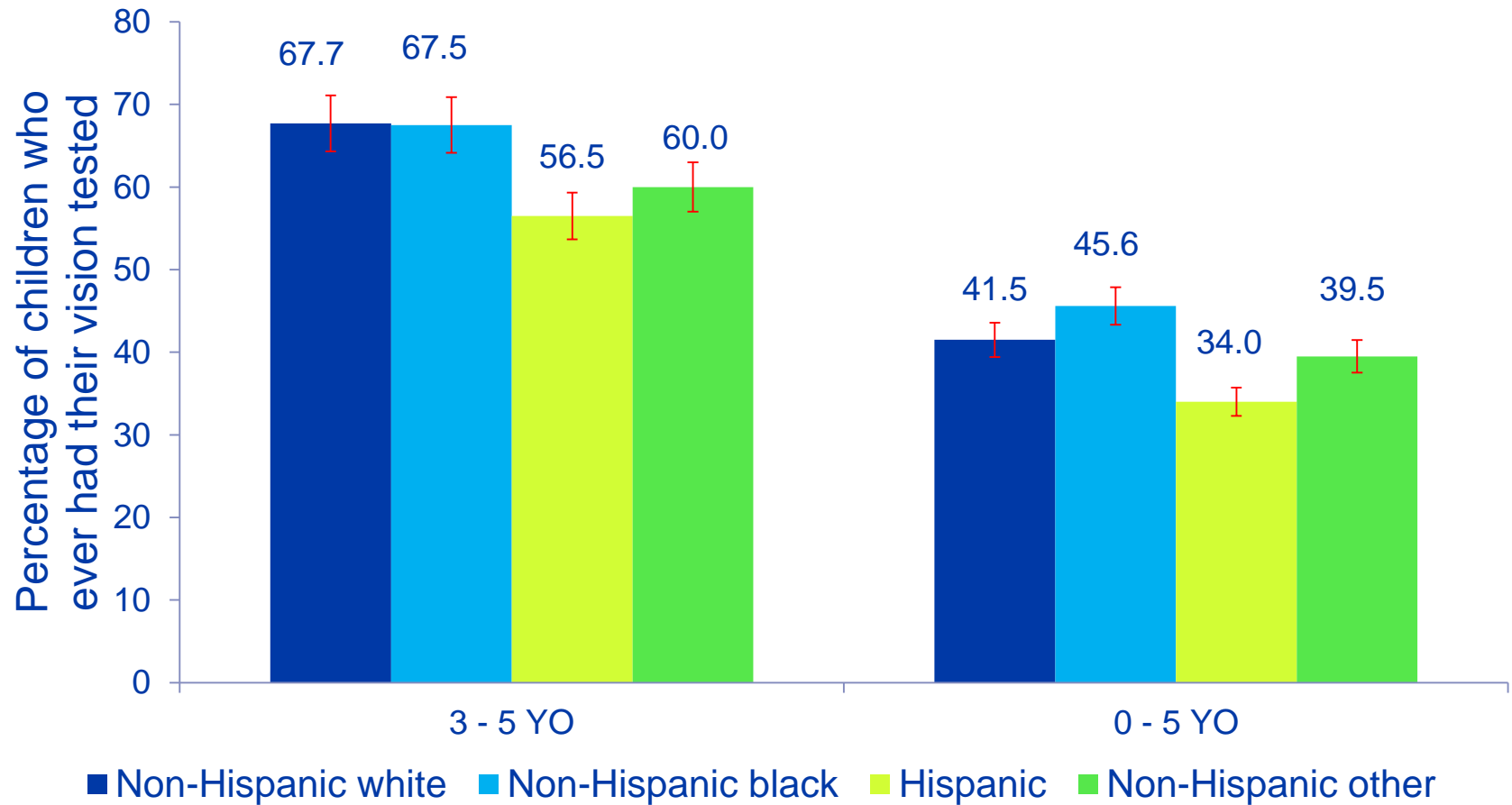
Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health (NSCH), 2011-2012

## Vision testing rates vary by household poverty status: Testing rates were lowest in the poorest households



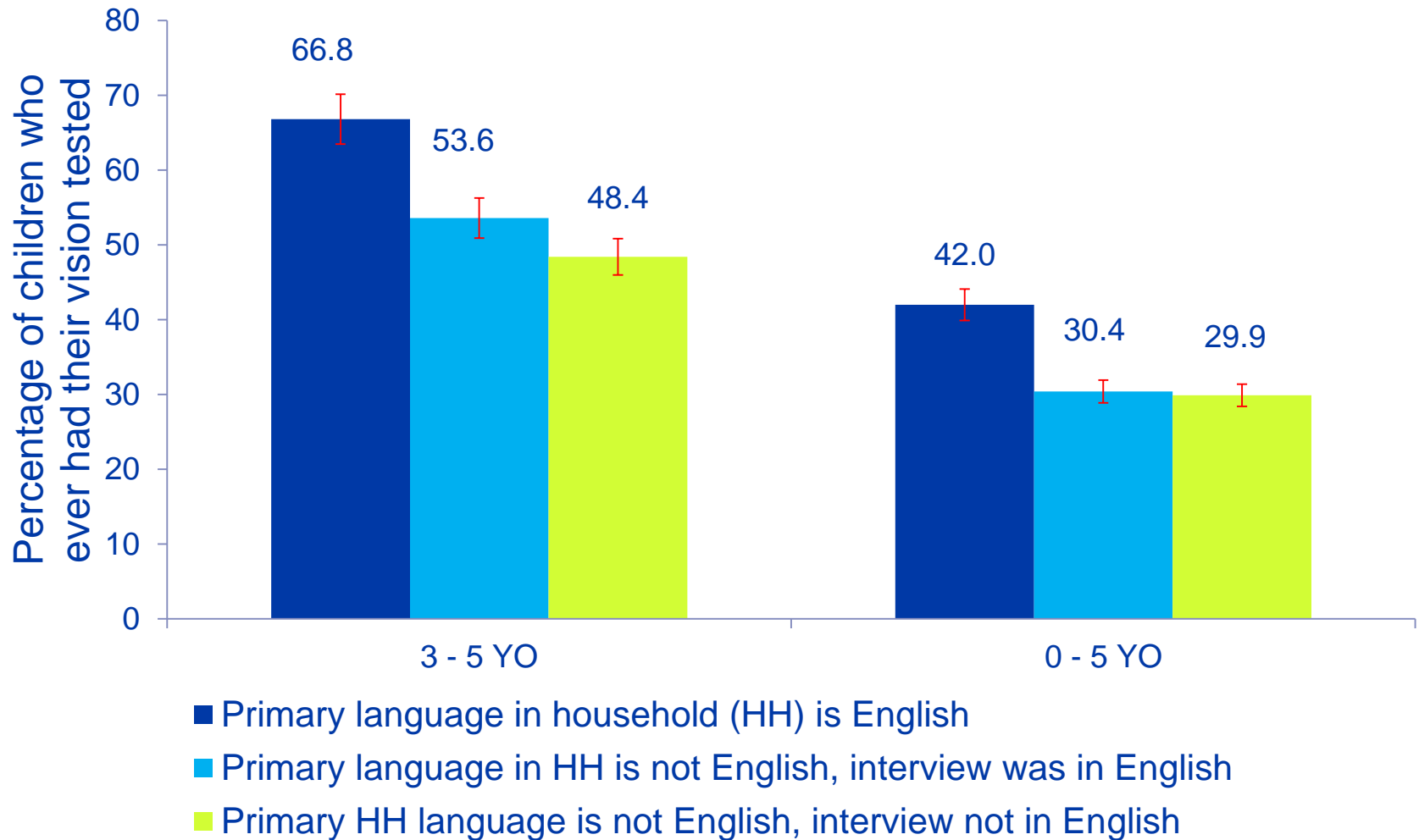
Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health (NSCH), 2011-2012

## Hispanic children were significantly less likely to have ever had their vision tested, compared to NH white and NH black children



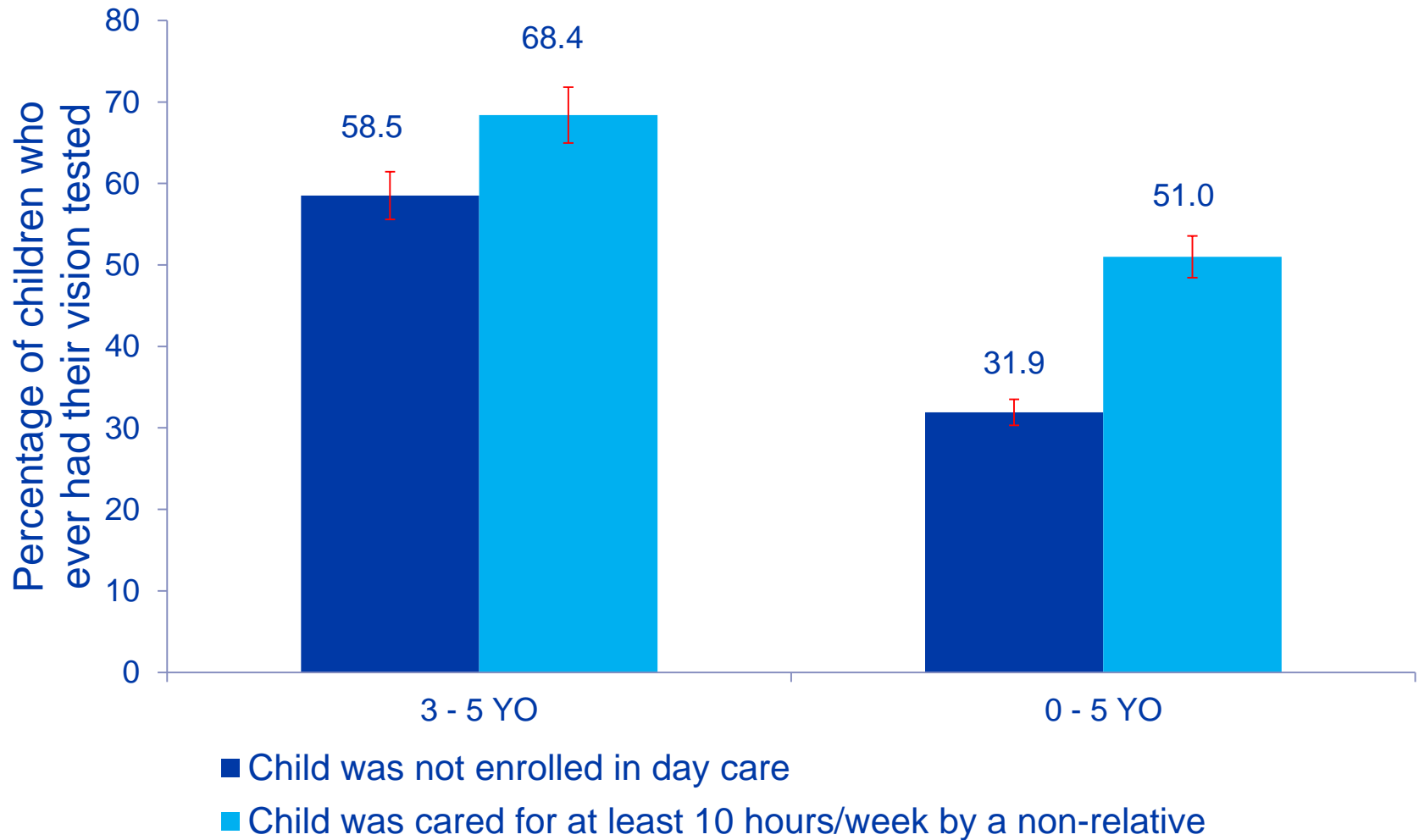
Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health (NSCH), 2011-2012

## Vision testing rates varied by primary language spoken in the household

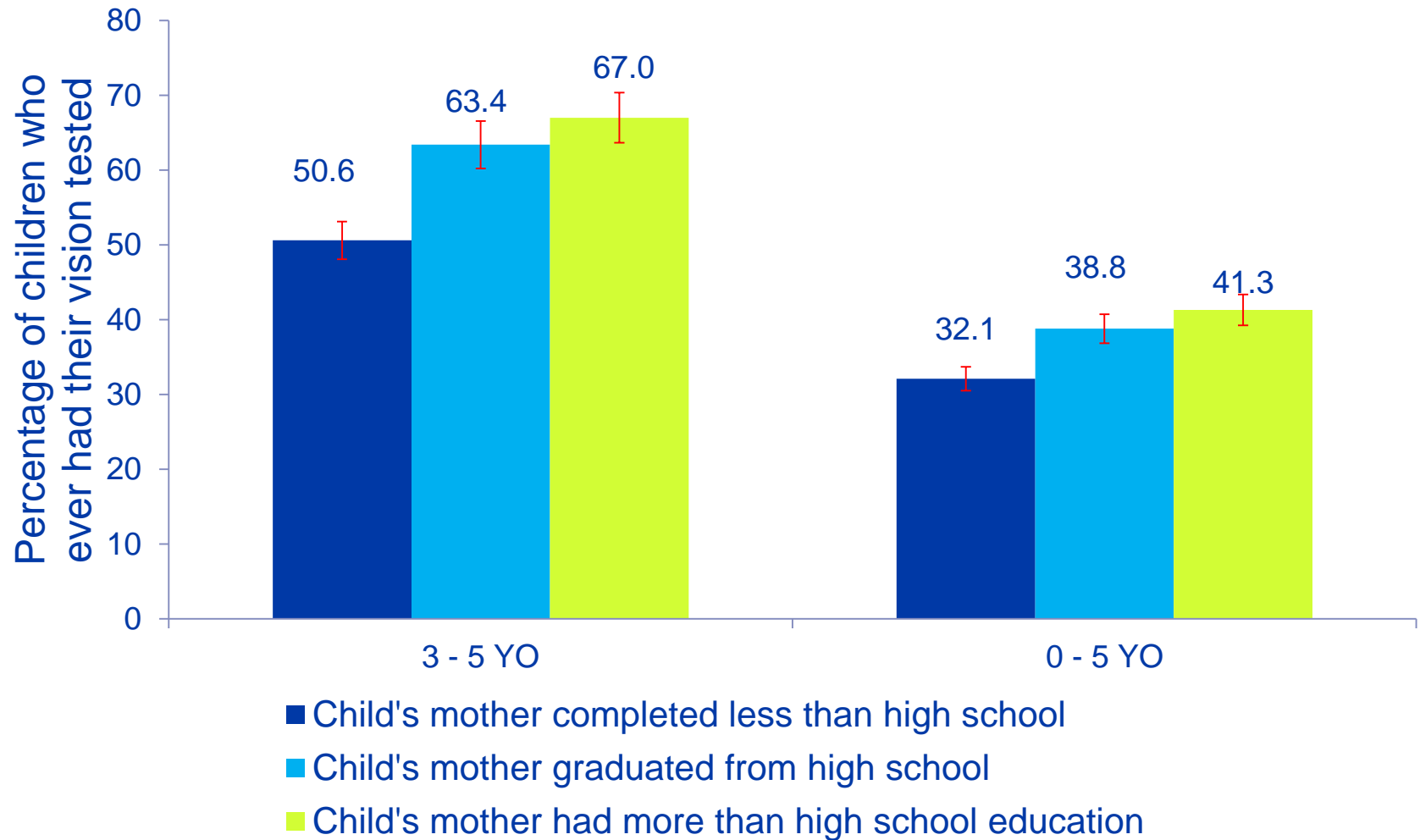




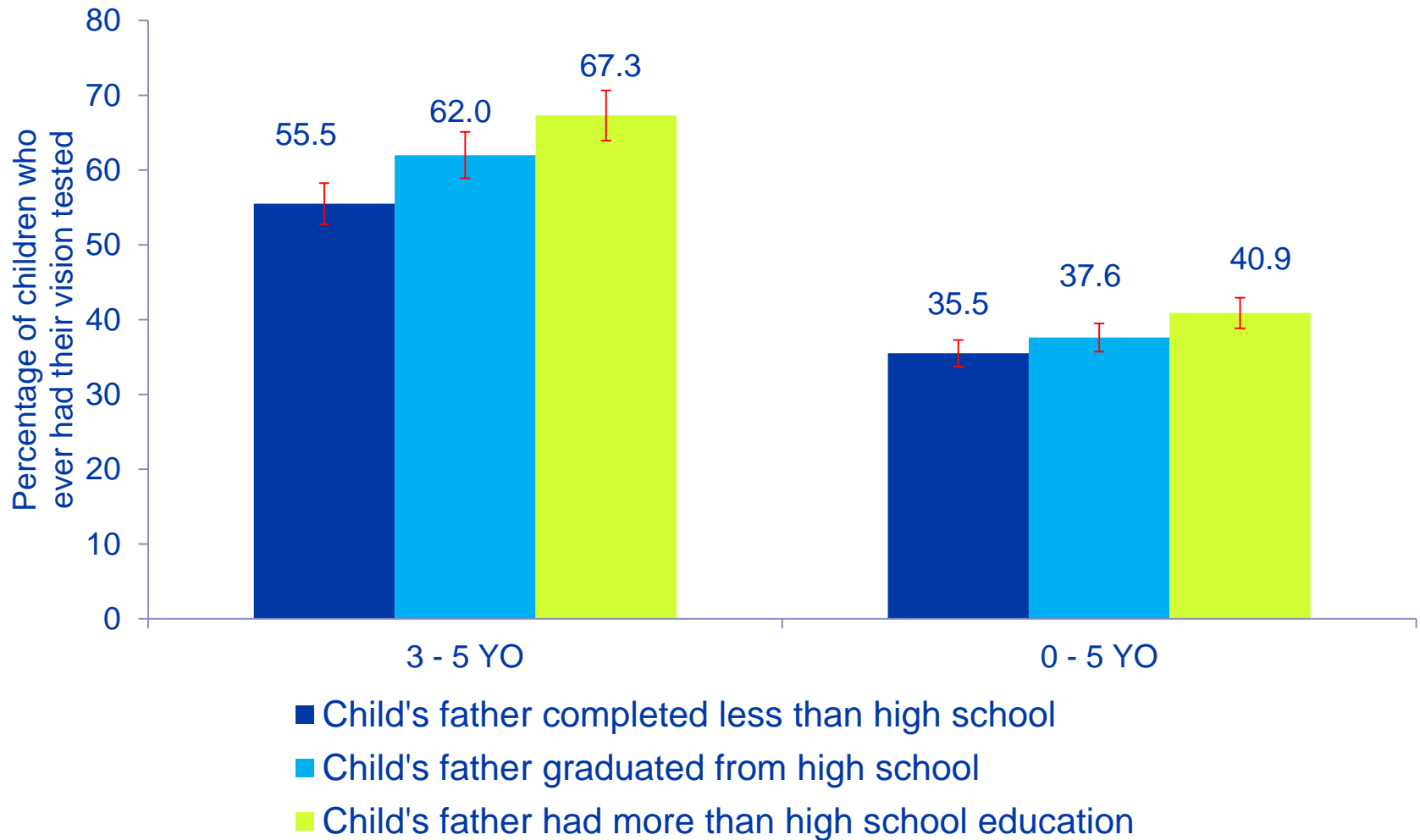
## Vision testing rates varied by enrollment in day/child care



## Vision testing rates varied by the mother's education level

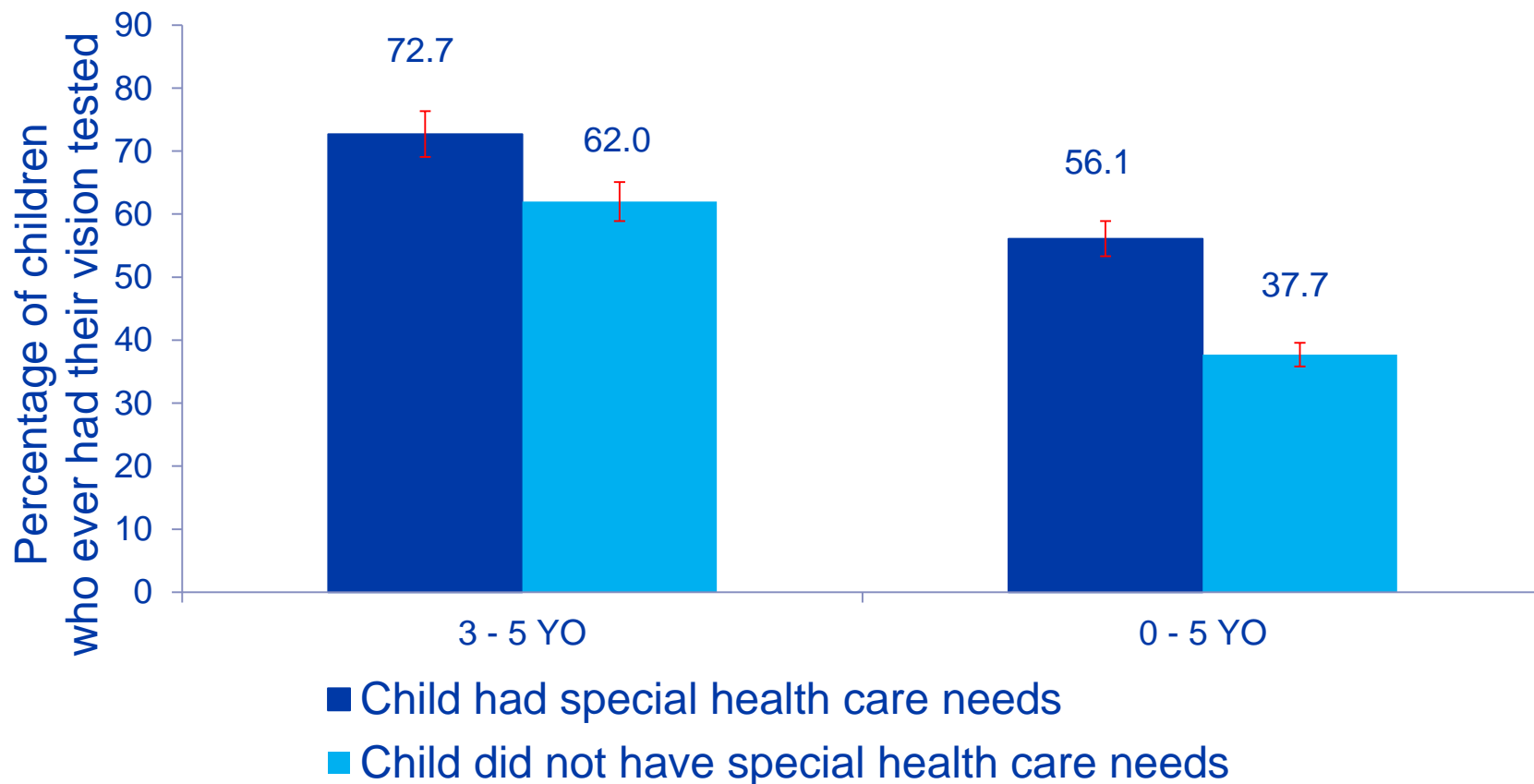


## Vision testing rates varied by the father's education level

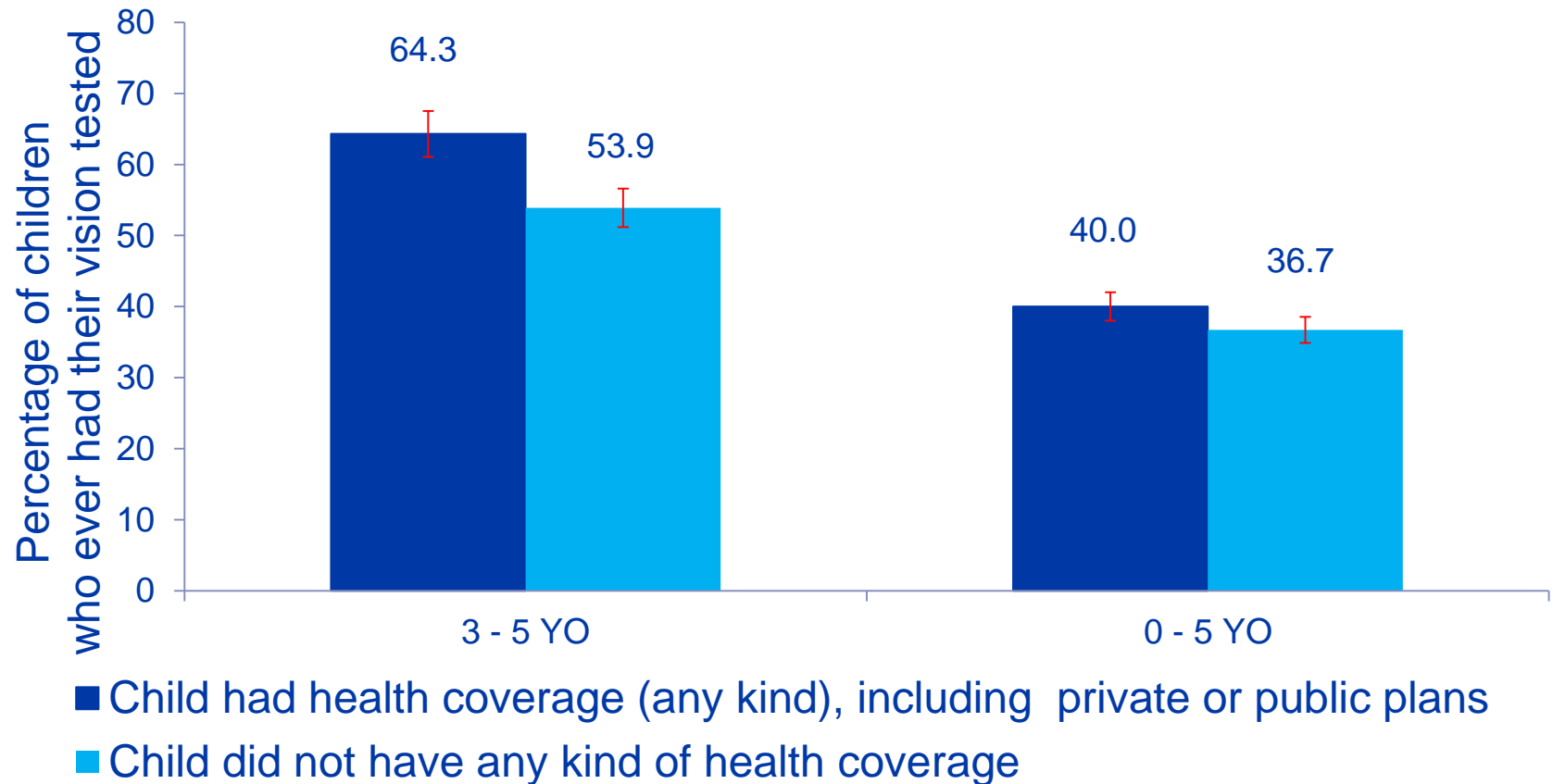


# **HEALTH FINDINGS**

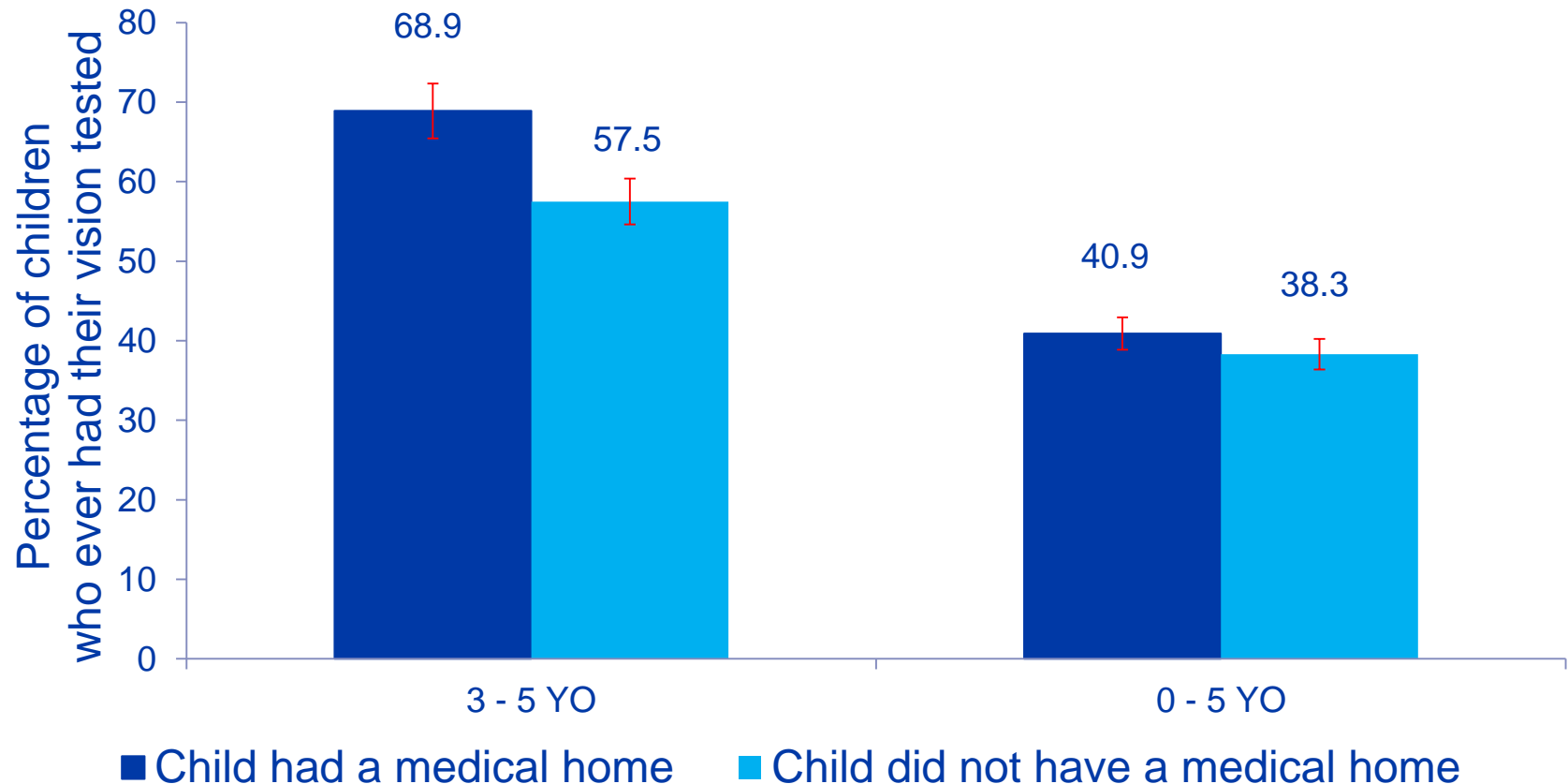
## Children with special health care needs were significantly more likely to have ever their vision tested than children without special health care needs



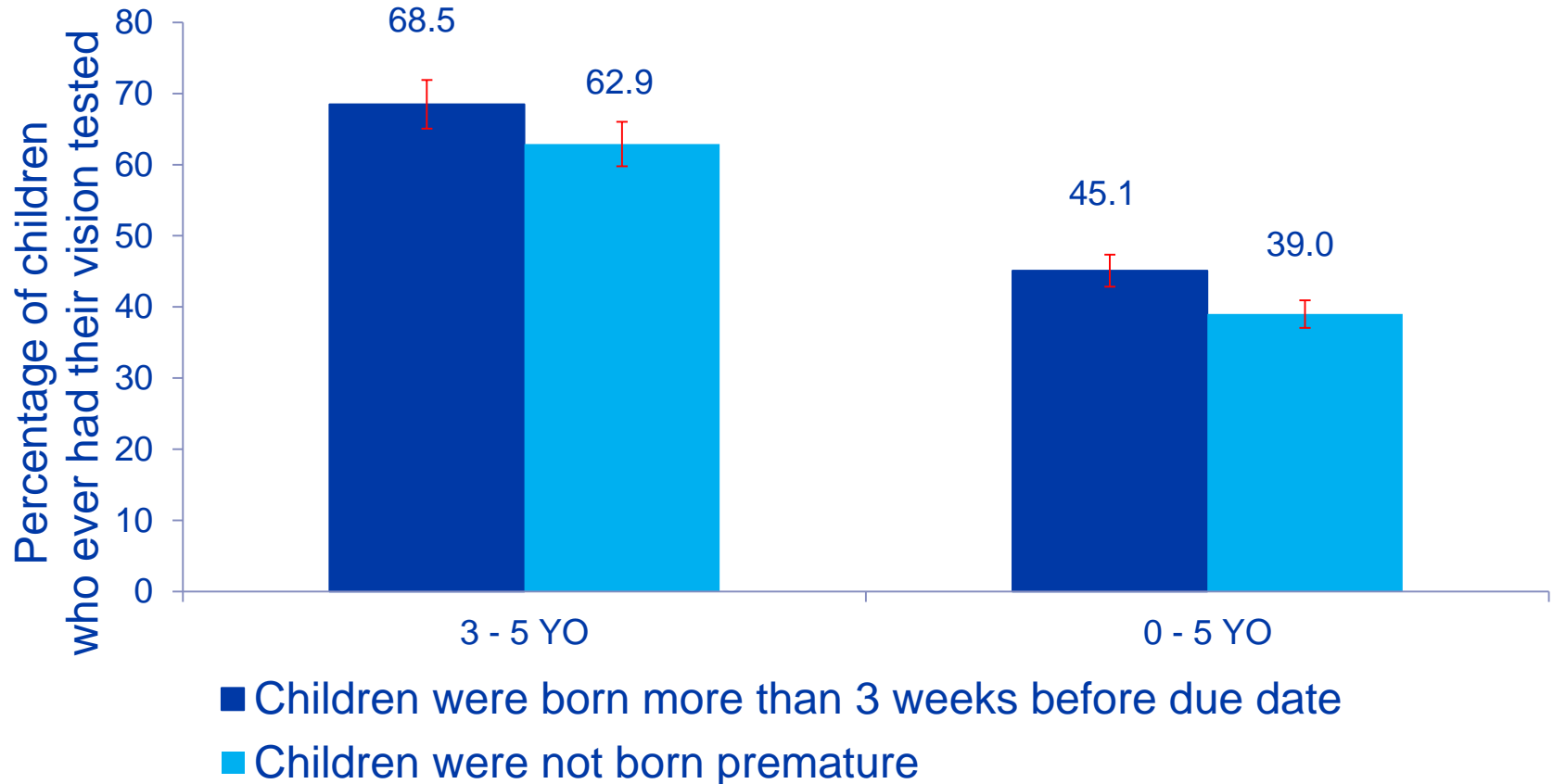
## The rate of vision testing varied by insurance status for 3 – 5 year olds



## Children aged 3 – 5 years who received care in comprehensive, ongoing, coordinated medical home were significantly more likely to have their vision tested than children who did not have a medical home



## Children ages 0 – 5 years who were born prematurely were significantly more likely to have their vision tested than children who were not born prematurely





**POTENTIAL RESEARCH  
QUESTIONS**

**HOW ELSE CAN YOU USE THESE  
DATA?**

## **Selected examples:**

### **Potential research questions to explore these data**

- ❑ **What percentage of children have an unmet need for vision care?**
  - How does this vary by the child's age, state of residence, household income, family structure, or race/ethnicity?
  
- ❑ **How many US children cannot see even when wearing standard glasses or contact lenses?**
  - How does this vary by state?
  
- ❑ **Where do children get their vision tested?**

## **Examples: Potential research questions**

- ❑ Are visually impaired children more depressed or anxious than non-visually impaired children?**
- ❑ How engaged are visually impaired children in after-school and social activities?**
- ❑ How well do visually impaired children flourish within their family and community, compared to non-visually impaired children?**
- ❑ Do parents of visually impaired children report higher levels of stress and poorer health than parents of non-visually impaired children?**

**HOW TO EASILY ACCESS & USE  
THESE DATA**

# National Center for Health Statistics

**<http://www.cdc.gov/nchs/slait/nsch.htm>**

- **Files, FAQs, documentation**

# Data Resource Center for Child and Adolescent Health (DRC)

**[www.childhealthdata.org](http://www.childhealthdata.org)**

- **Files, FAQs, documentation, cross-tabulation generator**

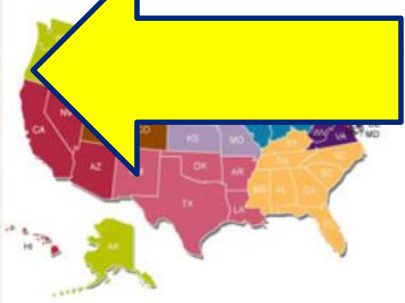


- ▶▶ Survey Fast Facts
- ▶▶ Quick Data Search
- ▶▶ Get State Snapshots
- ▶▶ How to Use This Site

Keyword Search  Go

### Data at a Glance

At your fingertips—easy-to-read data snapshots for each state



State/Region Nationwide

Browse State Snapshots

## Welcome to the Data Resource Center for Child & Adolescent Health!

Trying to find your way? Take a tour of our website and give us your feedback.

The mission of the Data Resource Center (DRC) is to take the voices of parents, gathered through the National Survey of Children's Health (NSCH) and the National Survey of Children with Special Health Care Needs (NS-CSHCN), and share the results through this free online resource. Easy access to children's health data allows researchers, policymakers, family advocates and consumers to work together to promote a higher quality health care system for children, youth and families. ▶▶ Learn more about the DRC

### DRC Highlights

- ▶▶ 2011/2012 NSCH data is here!
- ▶▶ Request a 2011/12 NSCH data set

### How you can use the DRC website

- Learn about the National Survey of Children's Health and the National Survey of Children with Special Health Care Needs

### Connect with the DRC

Sign up for email updates

email address  Submit

Join our conversation!

### Newsletters (sign up)

Now Available: More Data From the 2011/12 NSCH (04/09/2013)

## Current Search Criteria

**Survey:** 2011/12 National Survey of Children's Health

**Starting Point:** Child Health Measures

**State/Region:** Nationwide

**Topic:** Health Care Access and Quality

**Question:** Indicator 4.7: Receipt of vision screening  
(details)

## Edit Search Criteria

Compare States:

Select a State or Region

Compare Subgroups:

Select a Subgroup

» Change question, topic or survey

Indicator 4.7: Has [child name] ever/During the past 2 years has [child name] had (his/her) vision tested with pictures, shapes, or letters? (details)

	Did not receive vision screening	Received vision screening	Total %
%	32.4	67.6	100.0
C.I.	(31.7 - 33.1)	(66.9 - 68.3)	
n	28,111	65,890	
Pop. Est.	23,488,818	48,940,783	

C.I. = 95% Confidence Interval. Percentages are weighted to population characteristics.  
n = Cell size. Use caution in interpreting Cell sizes less than 50.

**Receipt of vision screening**  
Children age 0-17 years  
Nationwide



# Take-home points

- ❑ **The 2011-2012 NSCH is a new source of national and state data to explore vision data**
- ❑ **Just over 1 in 10 infants under 1 year of age (10.8%) have had their vision tested**
- ❑ **The vision testing rate for a majority of states is below the HP 2020 target rate**
- ❑ **After controlling for several health & demographic factors, children who are more likely to be tested:**
  - Are older
  - Have special health care needs
  - Were born prematurely (0 – 5 YO only)
  - Attend a day care > 10 hours per week
  - Receive care in a comprehensive coordinated medical home (3 – 5 YO only)
- ❑ **The DRC is an easy to use resource to access and analyze these data**



**Thank you!**

**Kathleen S. O'Connor**  
**CDC/NCHS, Hyattsville, MD**  
**301 – 458 – 4181**  
**[koconnor1@cdc.gov](mailto:koconnor1@cdc.gov)**

**Visit the SLAITS website at:**  
**<http://www.cdc.gov/nchs/slaits.htm>**

**[slaits@cdc.gov](mailto:slaits@cdc.gov)**

