

Improving the Nation's Vision Health

A Coordinated Public Health Approach



<http://www.cdc.gov/visionhealth/>

The BRFSS Vision Module

*Prevent Blindness America
Focus of Eye Health National Summit*

John E. Crews, DPA
Vision Health Initiative
Division of Diabetes Translation

June 18, 2013



Outline

- ❑ **Describe the Behavioral Risk Factor Surveillance System**
- ❑ **Describe the BRFSS Vision Module**
- ❑ **Demonstrate how the BRFSS can be used**
- ❑ **Share web-based resource**

Vision Data You Can Use

- ❑ Aim of this session is to introduce a variety of surveys addressing vision and eye health**
- ❑ Surveys have various strengths, weaknesses, and limitations that allow us to answer questions about vision and eye health.**
- ❑ Knowing the general characteristics of surveys will save much time.**
- ❑ Surveillance is the foundation of public health**

Behavioral Risk Factor Surveillance System (BRFSS)

- ❑ **Telephone survey established in 1984 by CDC**
- ❑ **Gathers state-specific information regarding health and health behaviors**
- ❑ **Samples non-institutionalized adults, 18+ years**
- ❑ **Survey is administered by each state using standard protocols.**
- ❑ **CDC provides infrastructure & scientific support**
- ❑ **350,000 people sampled annually; world's largest telephone health survey**

BRFSS

❑ Core Questions in BRFSS

- Demographics, Perception of Health,
- Health Behaviors, Health Conditions
- Falls (asked in even numbered years)

❑ ~ 20 Modules

- Including Diabetes, Anxiety & Depression
- Visual Impairment and Access to Eye Care 2005-2011

BRFSS

Visual Impairment and Access to Eye Care

- ❑ Administered in 26 states**
- ❑ 2005-2011**

Visual Impairment and Access to Eye Care

□ Nine Questions

- Function
- Eye Diseases
- Access to Eye Care
 - Dilated Eye Examination
 - Any Eye Examination
 - Eye Insurance
 - Barriers to Eye Care

Functional Eye Question in BRFSS Vision Module

- ❑ How much difficulty, if any, do you have in recognizing a friend across the street? Would you say—**
- ❑ How much difficulty, if any, do you have reading print in newspapers, magazines, recipes, menus, or numbers on the telephone? Would you say—**
- ❑ No difficulty, A little difficulty, Moderate difficulty, Extreme difficulty, Unable to do because of eyesight**

Eye Diseases in BRFSS

- ❑ Self Reported Eye Disease: “Have you EVER been told by an eye doctor or other health care professional that you had ...?”**
- ❑ Glaucoma**
- ❑ Macular Degeneration**
- ❑ Diabetes (In Diabetes module)**
- ❑ Now have cataracts or cataracts removed**

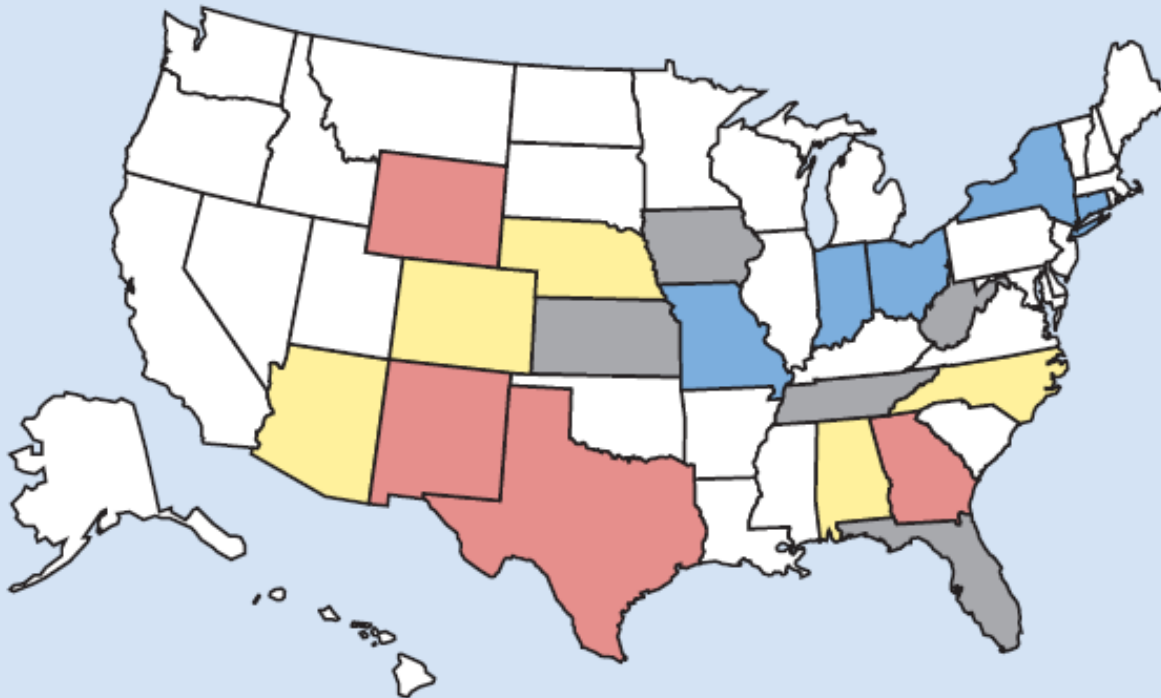
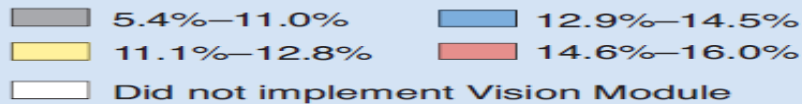
Now what?

- ❑ **Examine vision and eye questions by themselves— estimate prevalence at state level, for example**
- ❑ **Examine eye questions by age, race/ethnicity, gender**
- ❑ **Examine health, health behaviors, & health conditions by various vision variables.**
- ❑ **Vision Module is richer than what 9 questions might imply.**

Behavioral Risk Factors Surveillance System BRFSS

Visual Function

Percentage of U.S. adults aged 65 years or older who reported moderate or extreme vision loss, by state, BRFSS, 2006–2008



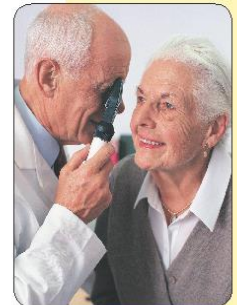
The State of Vision, Aging, and Public Health in America

Vision impairment is a serious public health concern among older adults, affecting more than 2.9 million people in the United States.^{1,2} This issue brief summarizes the prevalence of vision loss and eye diseases reported by people aged 65 or older, and it provides information about access to eye care, health status, and comorbid conditions among older adults. Data were collected from 19 states that used the Vision Impairment and Access to Eye Care Module (Vision Module) of CDC's Behavioral Risk Factor Surveillance Systems (BRFSS) during 2006–2008.

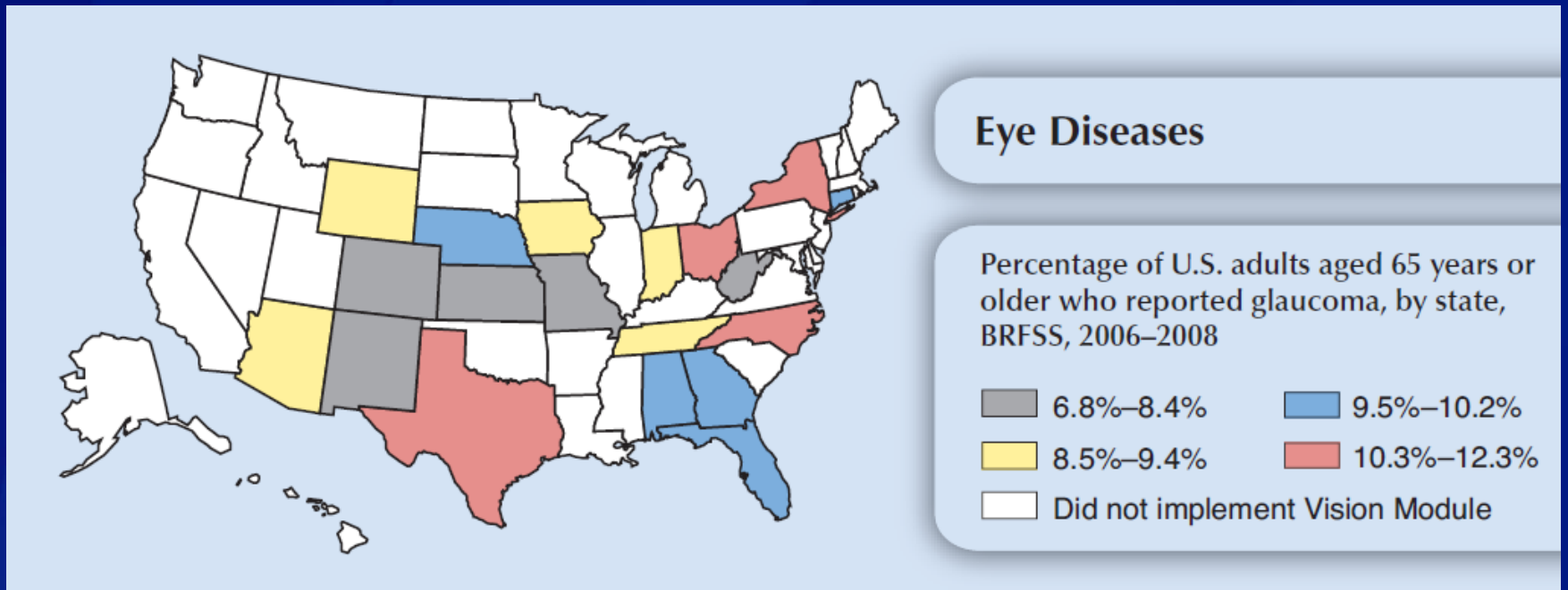
Vision Loss and the Health of Older Adults

The prevalence of blindness and vision impairment increases rapidly with age among all racial and ethnic groups, particularly among people older than 75 years.⁴ Cases of age-related macular degeneration are expected to double by 2050, from 9.1 million to 17.8 million.⁵ Cases of diabetic retinopathy among people aged 65 or older are expected to quadruple by 2050, from 2.5 million to 9.9 million.⁶

National studies indicate that vision loss is associated with higher prevalence of chronic health conditions,⁷ death,⁸ falls and injuries,⁹ depression, and social isolation.^{10,11} When combined with chronic health conditions such as diabetes, vision loss is associated with overall poorer health among people aged 65 or older.⁷ Vision loss compromises people's quality of life because it reduces their capacity to read, drive a car, watch television, or keep personal accounts. Often, it isolates older people and keeps them from friends and family. Direct medical expenses for older adults with vision impairment cost the United States \$8.3 billion a year.¹²

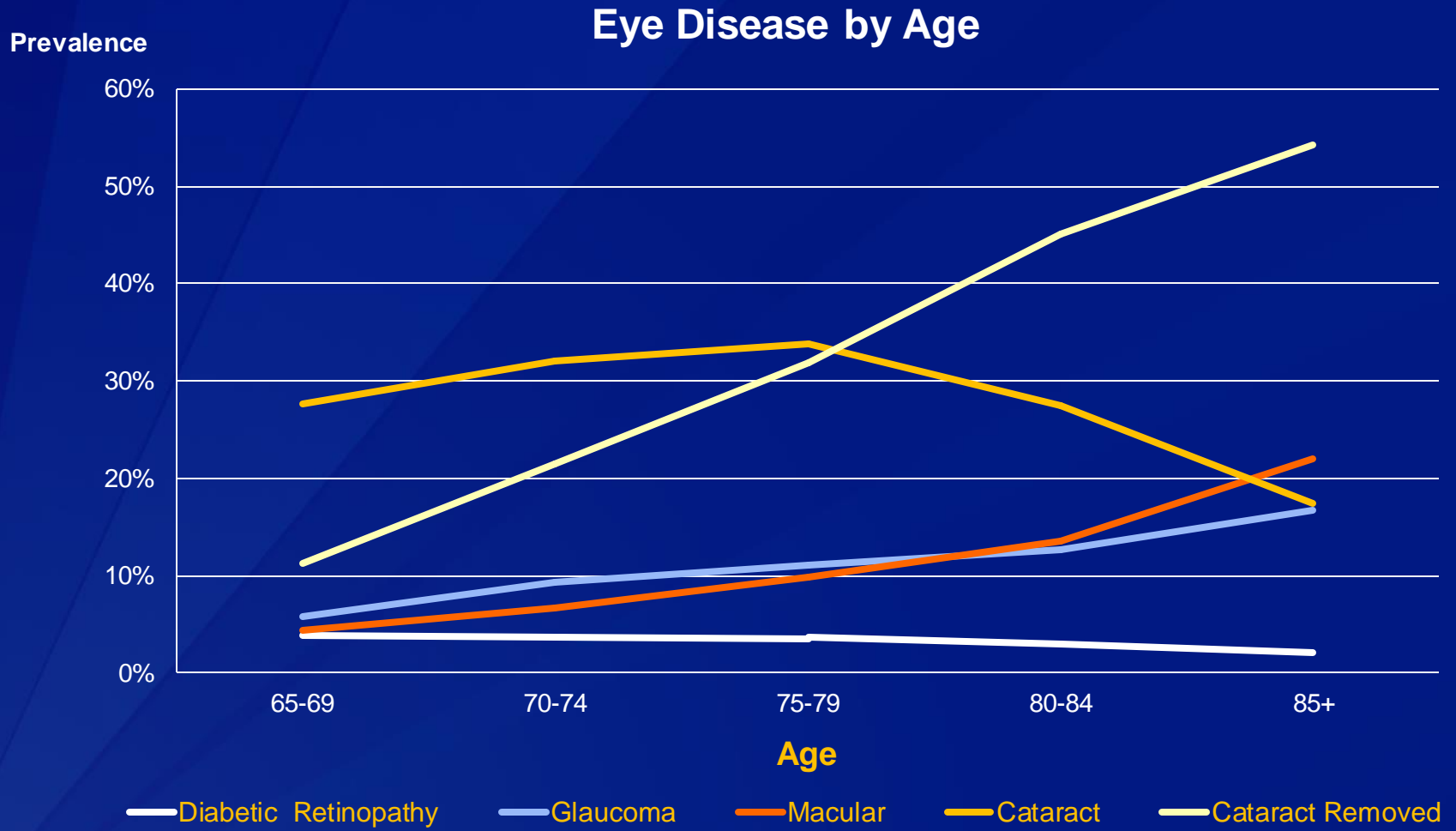


Glaucoma at the state level



Glaucoma ranges from 6.8% (New Mexico) to 12.3% (Texas)
9% of men and 10% of women report Glaucoma
6% among those aged 65-69 years
17% among those aged 85+

Self Reported Eye Diseases, age ≥ 65 years, BRFSS

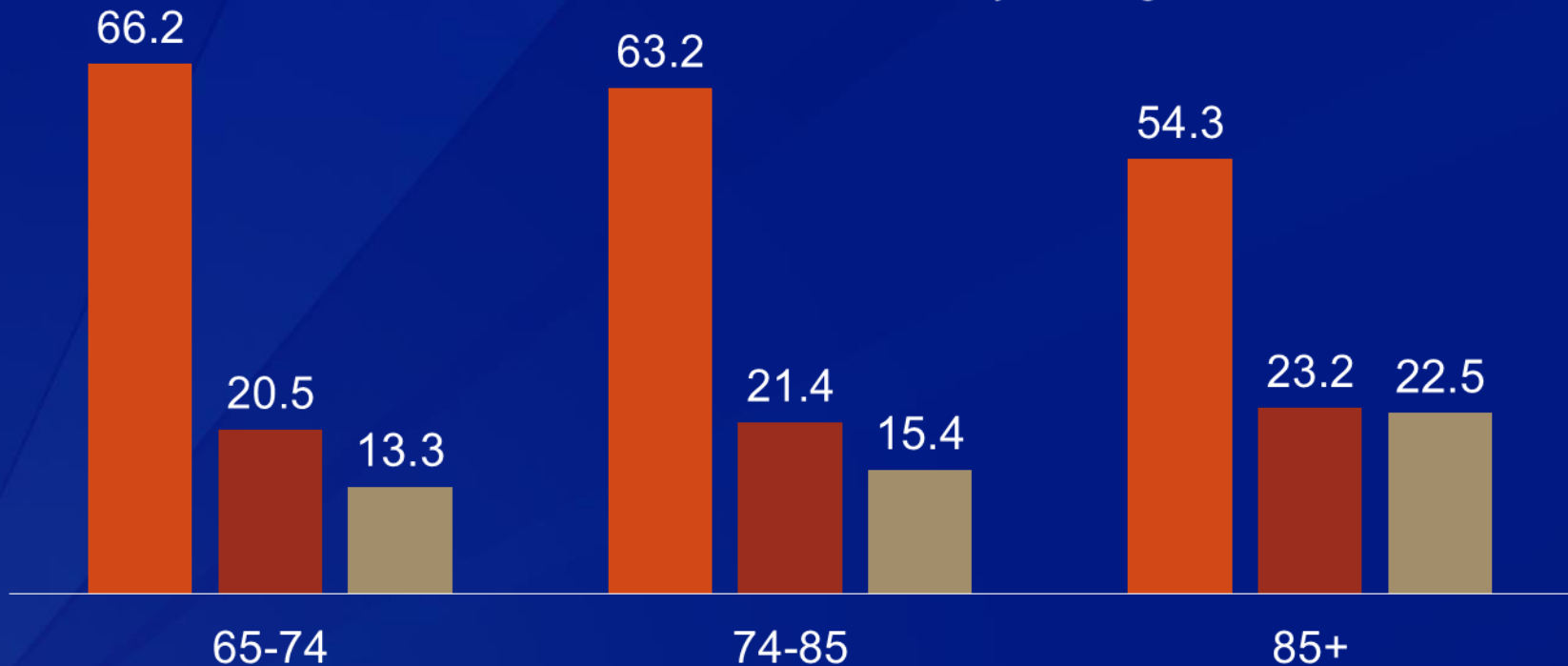


Describe & Understand Disparities

- Age
- Sex
- Race/ethnicity
- Health

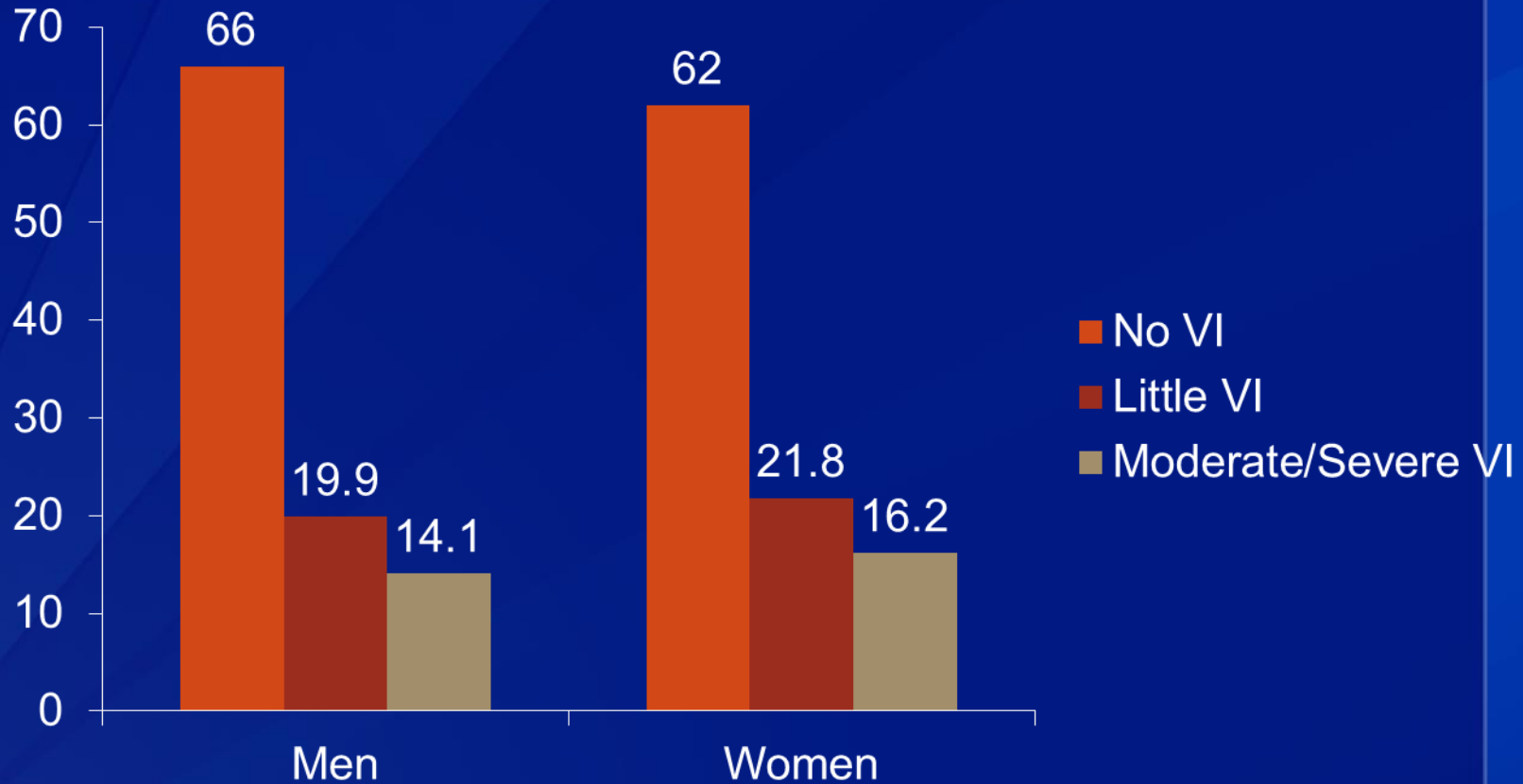
Self reported no, little, & moderate/severe difficulty seeing by age

- No difficulty seeing
- Little difficulty seeing
- Moderate extreme difficulty seeing



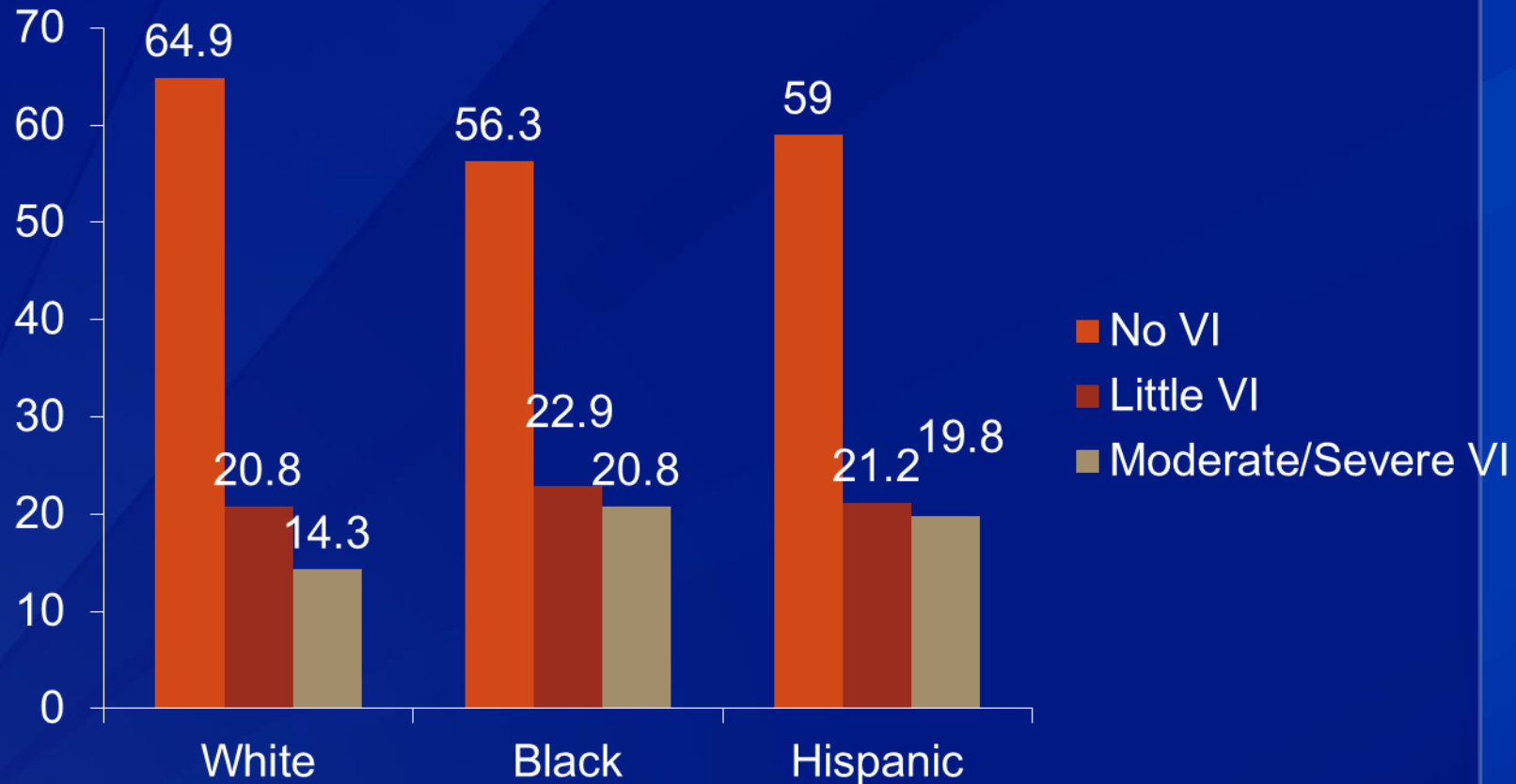
BRFSS, 2006-2010

Severity of Vision Impairment by Sex for People Aged ≥ 65 Years



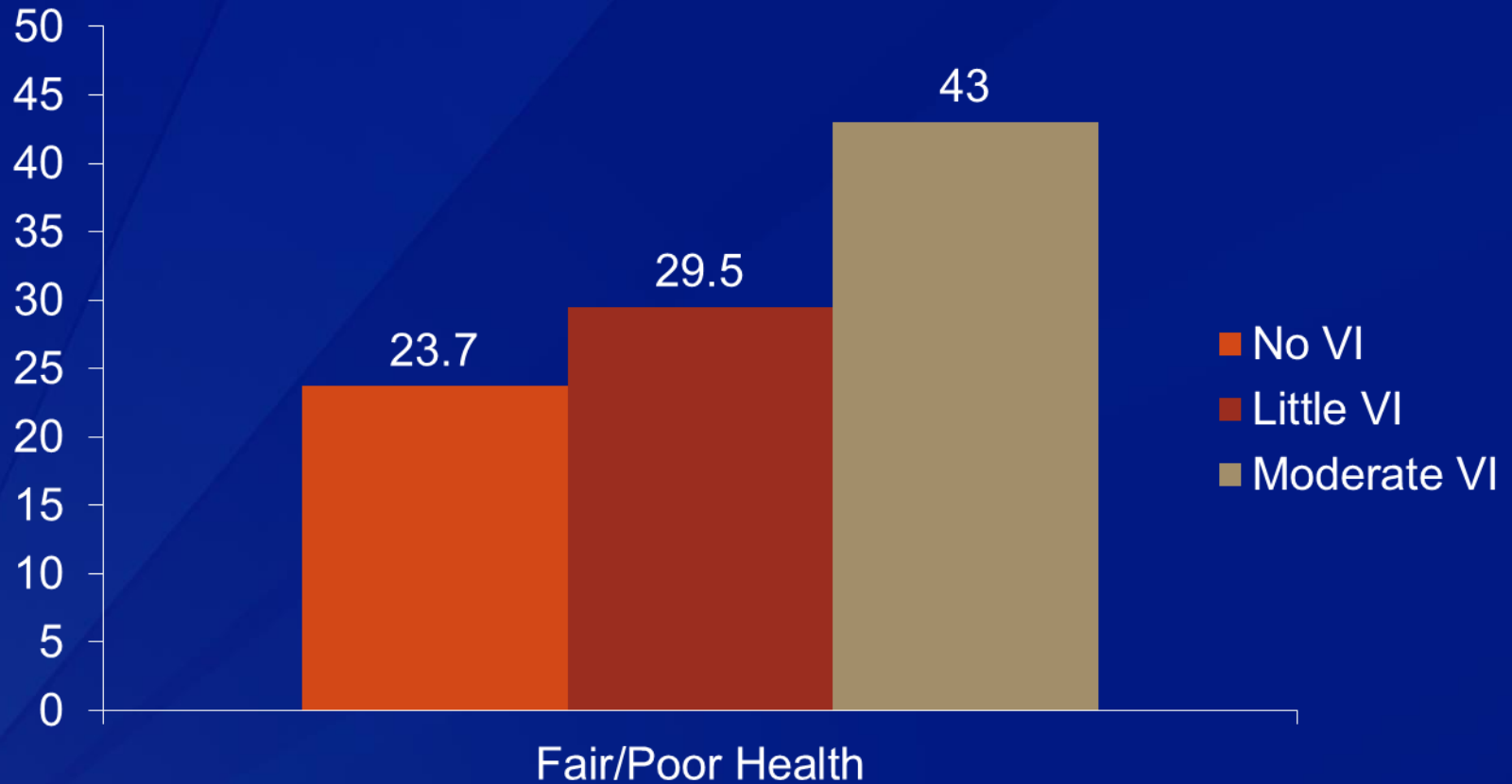
BRFSS. 2006-2010

Severity of Vision Impairment by Race/Ethnicity for People Aged \geq Years



BRFSS, 2006-2010

Fair/Poor Health by Severity of Vision Impairment

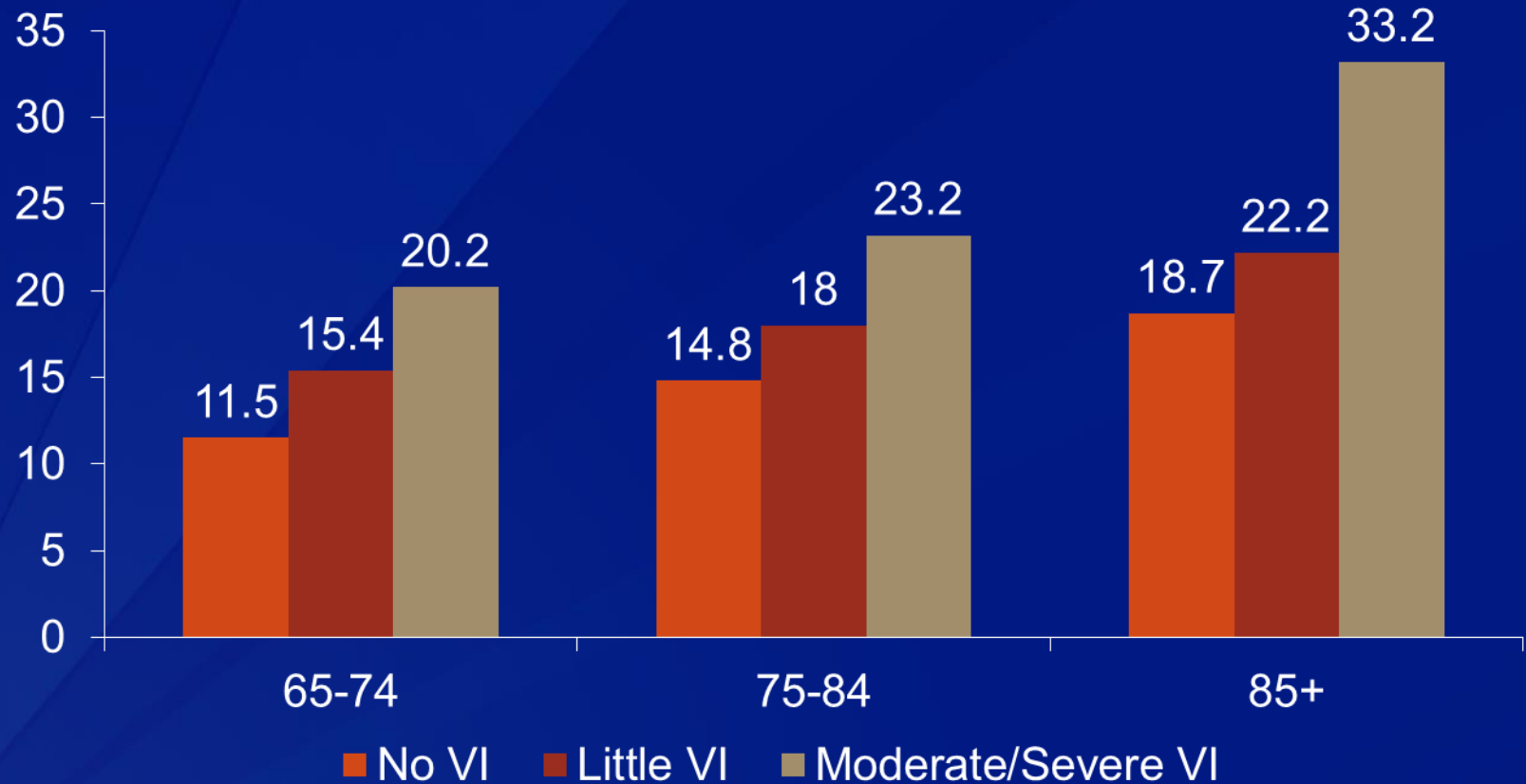


Crews et al, 2012

Describe Health Risks

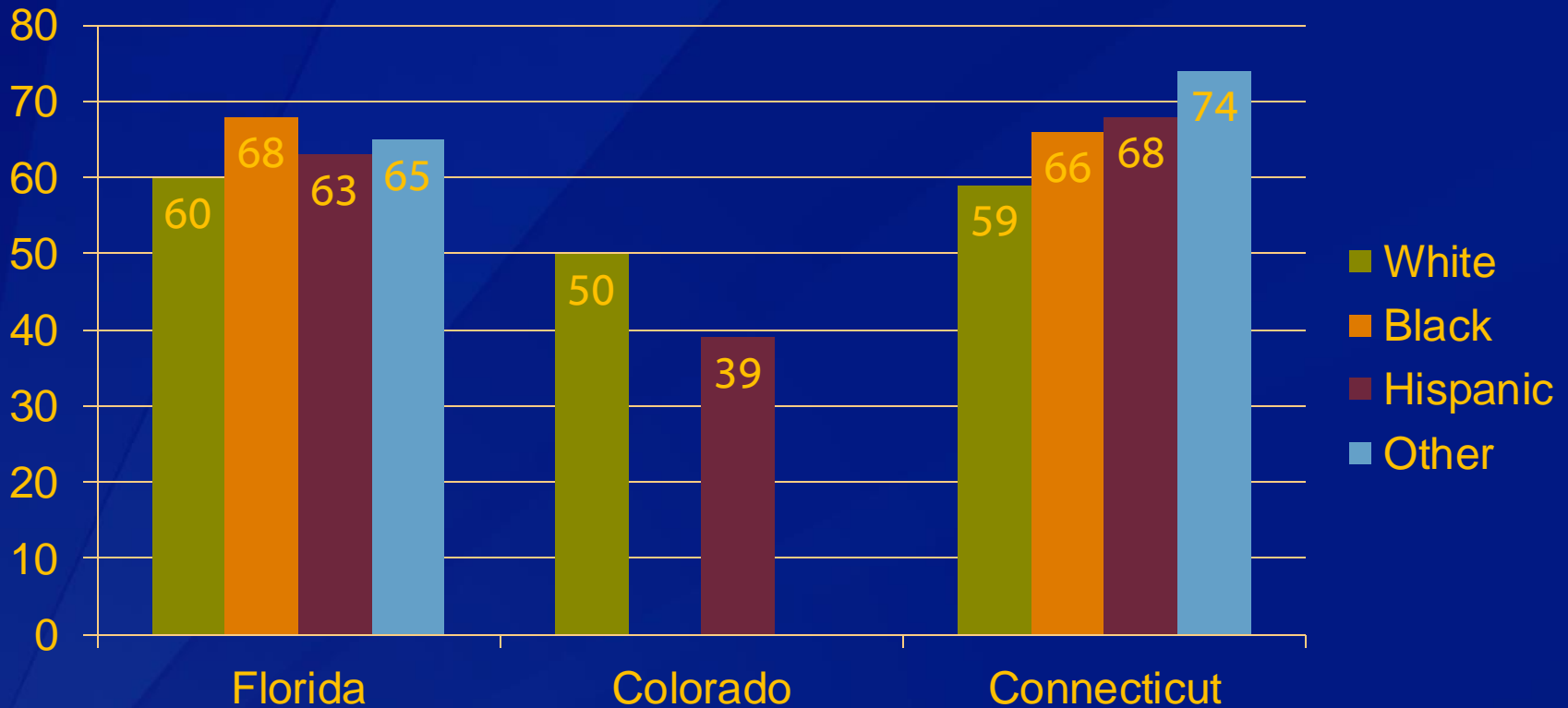
- Falls, for example

Percent of Falls by Age Group & Severity of Vision impairment, BRFSS



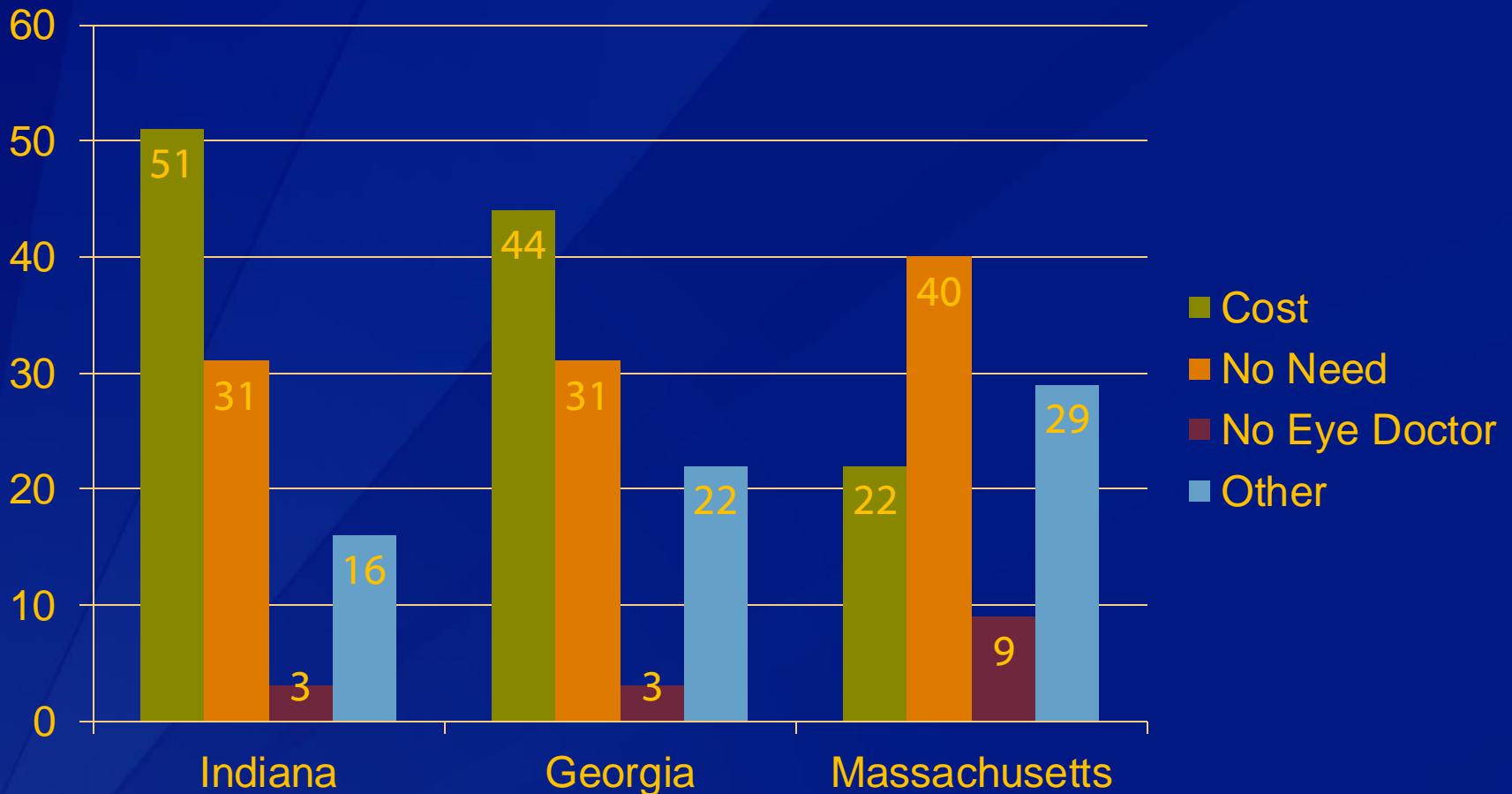
Crews, Chou, et al, 2012

Prevalence of Yearly Eye Care Visits



Chou C-F, Baker LE, Crews JE, Primo SA, Zhang X, Elliott AL, Geiss LS, & Saaddine JB. Disparities in eye care utilization among United States adults with visual impairment: findings from the Behavioral Risk Factor Surveillance System 2006-2009. *American Journal of Ophthalmology*. 2012;154:S45-52.

Prevalence of Reasons Not to Seek Eye Care, Aged 40-64 Years




Chou C-F, Sherrod CE, Zhang X, Bullard KM, Crews JE, Barker L, Saaddine JB. (2011). Reasons for not seeking eye care among adults aged ≥ 40 years with moderate-to-severe visual impairment — 21 states, 2006-2009. *Morbidity and Mortality Weekly Report* 60(19), 610-613.

Use of BRFSS Vision Data

- Peer-reviewed papers
- MMWR
- State Report (New York, Ohio)
- Major conferences
- Vision and aging brief



Behavioral Risk Factor Surveillance System



Vol. 14, No. 1 Spring 2008

VISION IMPAIRMENT AND ACCESS TO EYE CARE

Christopher Maylahn, MPH
Thomas A. Melnik, DrPH

Christopher Maylahn is a Program Research Specialist in the Division of Chronic Disease Prevention and Adult Health.
Thomas Melnik is a Research Scientist in the Bureau of Chronic Disease Epidemiology and Surveillance.

Introduction

For adults, glaucoma, cataracts, age-related macular degeneration and diabetic retinopathy are serious threats to vision. Eye disease and visual impairment are among the most common causes of disability. These conditions can affect a person's ability to work and to care for themselves. They also may result in reduced quality of life and increased risk of premature death. Cataracts can be treated, most often with excellent outcome; however, the treatments for many other eye diseases are often not as promising, especially if discovered late in the disease process. Thus, early identification and prevention are so important.

Behaviors such as smoking or a poor diet can impact eye health, as well as overall health. Injuries, too, can result in vision problems. Adopting healthy eating habits, not smoking and taking safety precautions can help keep your eyes healthy. Vision screening among adults aged 65 years and older ranks among the top ten most effective clinical preventive services that can be offered in a medical setting.¹

The annual cost of adult vision problems in the U.S. is more than \$1 billion.² Rates of vision loss and blindness are expected to increase dramatically in the next three decades as the population ages and demographics change.^{3,4} With these increases, the cost will also rise. Community-based organizations, local health departments and other states partner with eye care providers in preventing new cases of eye disease and the visual impairment that often follows.

Data Collection

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing telephone-based surveillance system developed by the Centers for Disease Control and Prevention (CDC) and administered by the New York State Department of Health. The BRFSS is designed to provide information on behaviors, risk factors, diseases and conditions, and utilization of preventive services related to the leading causes of chronic infectious disease, disability, injury, and death among the non-institutionalized, civilian adult population aged 18 years and older.

In 2006, the Visual Impairment and Access to Eye Care module was included in the survey to assess prevalence of self-reported vision impairment, eye disease, eye injury, and lack of eye care insurance and eye examination among persons aged 40 years and older. The module has two questions and was first used in 2005 by five states.⁵ One question about diabetic retinopathy was added in the Diabetes module.

Copies may be obtained by contacting:
BRFSS Coordinator
New York State Department of Health
Bureau of Chronic Disease,
Epidemiology and Surveillance
Empire State Plaza, Rm. 965
Corning Tower
Albany, NY 12237-0670
or by phone or electronic mail:
(518) 473-4673
or BRFSS@health.state.ny.us or
www.health.ny.gov

New York State Department of Health
Eliot Spitzer, Governor
State of New York
Richard D. Otis, M.D.
Commissioner

Public Health Impact

- Inform decision makers and the public
- Develop targeted interventions to reach different groups and high-risk populations
- Integrate vision activities at the state level

Vision Health Initiative Website



SEARCH

A-Z Index for All CDC Topics

Vision Health Initiative (VHI)

May is Healthy Vision Month

Healthy Vision Month and the CDC's Vision Health Initiative (VHI) is partnering with the National Eye Institute to encourage all Americans to make vision a health priority.

The Vision Health Initiative (VHI) promotes vision health and quality of life for all populations, through all life stages, by preventing and controlling eye diseases, eye injury, and vision loss resulting in disability. VHI, consists of a team in CDC's Division of Diabetes Translation, collaborated with diverse stakeholders to develop a coordinated public health framework to promote the nation's vision health across the lifespan. The initiative achieves its mission by supporting the following three key activities:

- Assessment
- Application
- Action

Eye Health Tips

Follow these simple guidelines for maintaining healthy eyes

[Learn More >](#)

<

1

2

3

>



- Email page link
- Print page



Centers for Disease Control and Prevention

MMWR

Morbidity and Mortality Weekly Report

VISION HEALTH ANNOUNCEMENT

Vision Health Initiative Topics

About Us

Our Approach, Funding Opportunities, Resources, History

Basic Eye Health Information

Fast Facts, Common Eye Disorders, Health Across Lifespan

Data & Statistics

National Data, State Data, Data Sources

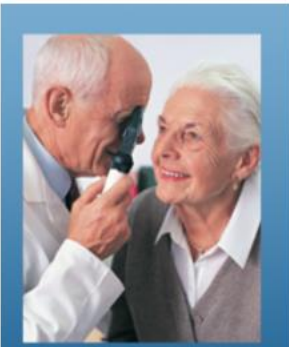
Projects

Current, Past, Types

State Surveillance Data



This tool allows users to see vision health state-specific data.



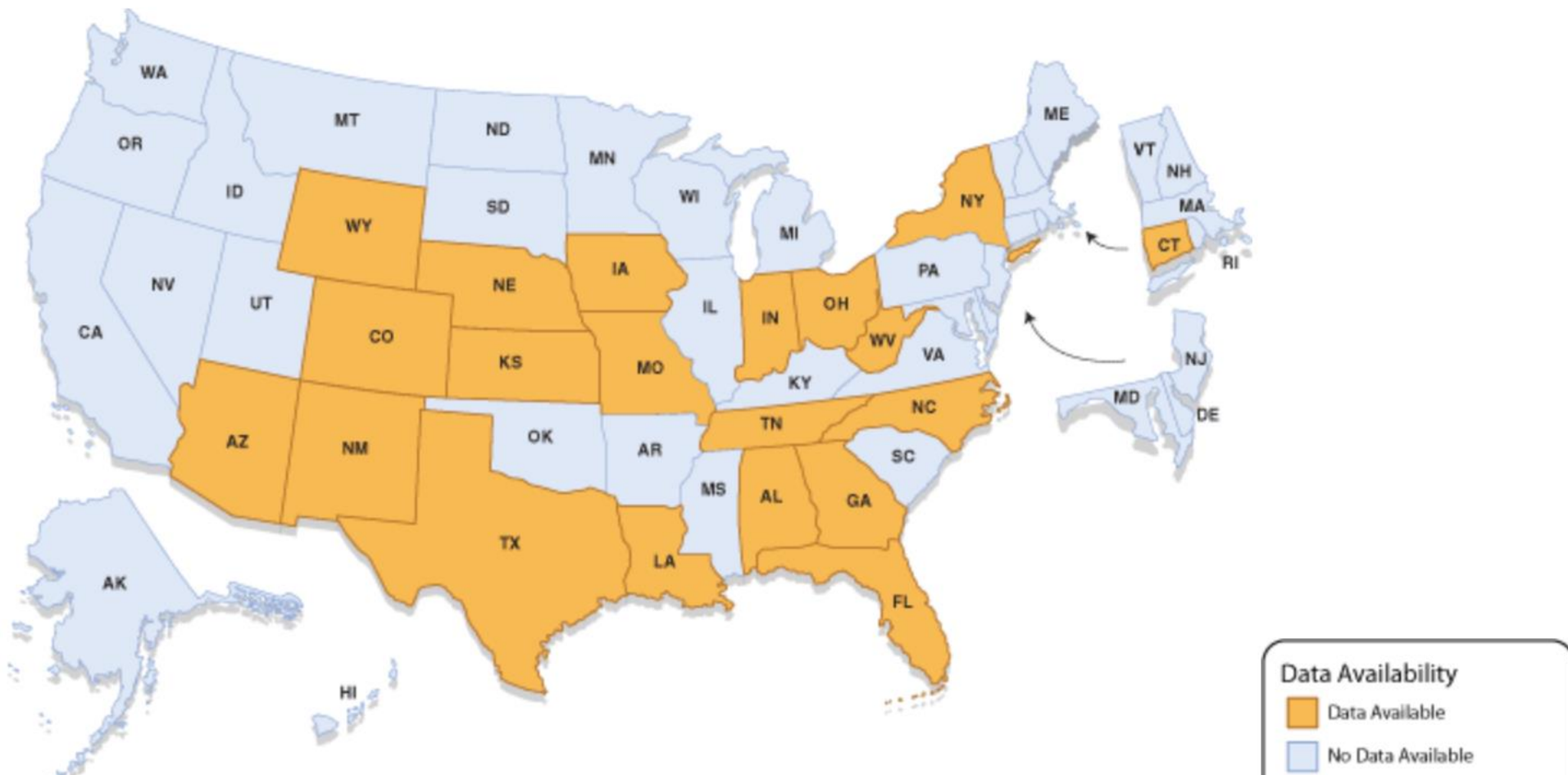
alth/basic_information/eye_health_tips.htm




State Summaries

To view summary of state-level vision health indicators click the map or use the dropdown menu, then click Go.

Alabama





New York 2008


To view prevalence data by age, sex, race/ethnicity, education, and diabetes status, click an indicator below.

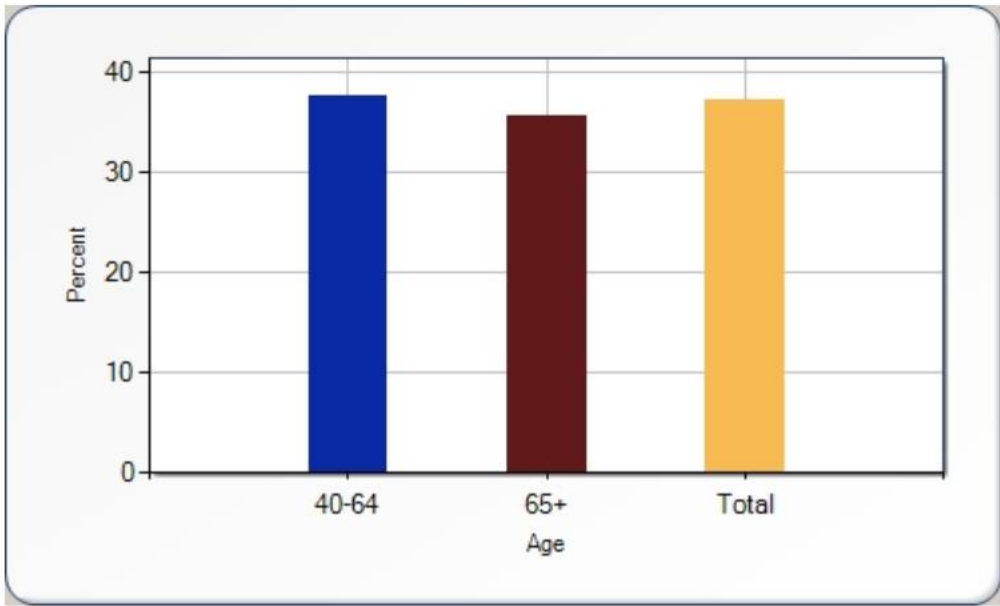
Indicator	Percentage	95% CI
Visual Impairment		
Distance Visual Impairment	16.7%	(15.1 - 18.4)
Near Visual Impairment	37.2%	(35.1 - 39.3)
Eye Diseases and Injury		
Age-related Macular Degeneration	4.7%	(3.9 - 5.6)
Cataract	19.3%	(17.8 - 20.8)
Diabetic Retinopathy	19.4%	(15.3 - 24.2)
Glaucoma	4.5%	(3.8 - 5.4)
Access to Eye Care		
Eye-care Visit in the Past Year	64.2%	(62.0 - 66.3)
Reasons for No Eye-care Visit		
Cost/Insurance	17.9%	(15.2 - 21.0)
No Reason to Go	58.3%	(54.6 - 61.9)
Dilated Eye Examination in the Past Year	53.6%	(51.3 - 55.7)
Eye-care Insurance	70.4%	(68.4 - 72.4)

Data Source: CDC's Behavioral Risk Factor Surveillance System(BRFSS) at <http://www.cdc.gov/brfss/index.htm>

Suggested Citation: Centers for Disease Control and Prevention: Vision Health Initiative. Available at <http://www.cdc.gov/visionhealth/>

Indicator Near Visual Impairment **View by** Age

 **New York 2008**
 Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Age



[Save Chart](#)

[View all New York Indicators](#)
[View Indicator Summary](#)

New York 2008
Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Age

Year	40-64 years (95% CI)	65 years and older (95% CI)	Total (95% CI)
2008	37.7% (35.1 - 40.3)	35.7% (32.6 - 38.9)	37.2% (35.1 - 39.3)

Indicator

View by

Near Visual Impairment

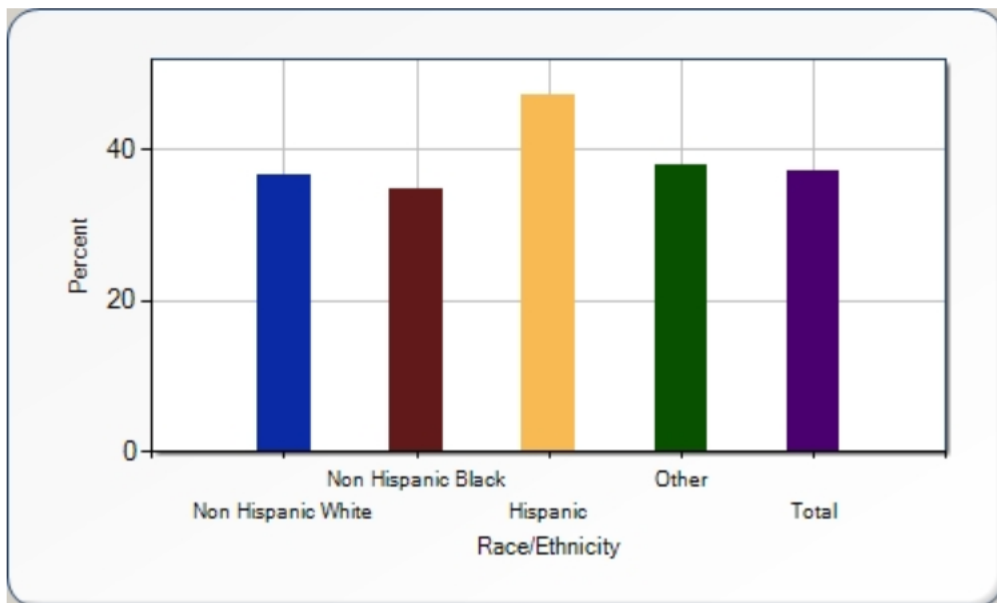
Race/Ethnicity

Go



New York 2008

Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Race/Ethnicity



[Save Chart](#)


[View all New York Indicators](#)
[View Indicator Summary](#)

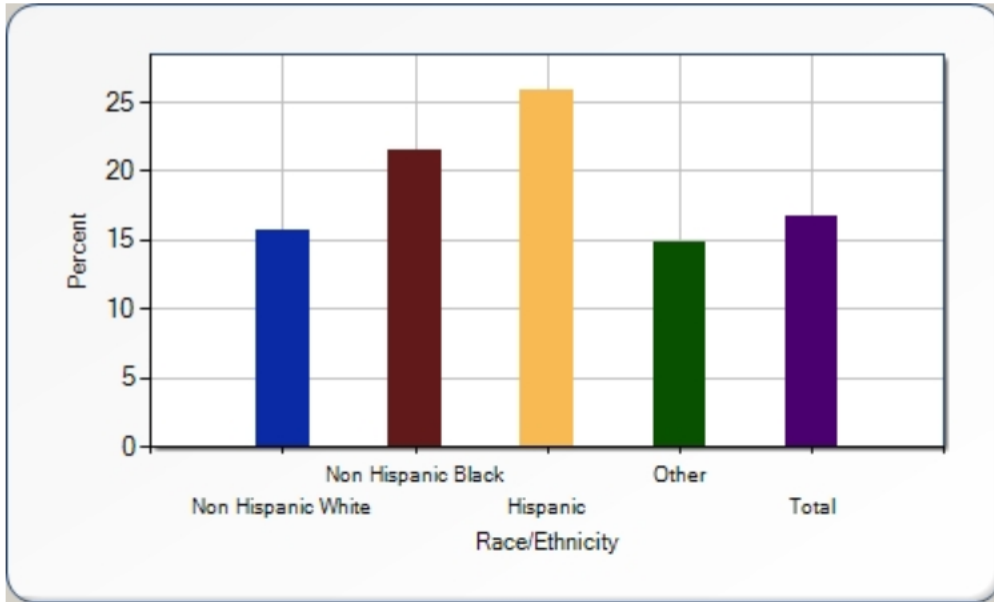
New York 2008

Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Race/Ethnicity

Year	Non-Hispanic White (95% CI)	Non-Hispanic Black (95% CI)	Hispanic (95% CI)	Other (95% CI)	Total (95% CI)
2008	36.5% (34.3 - 38.8)	34.8% (27.1 - 43.3)	47.1% (36.8 - 57.7)	37.9% (27.9 - 49.1)	37.1% (35.0 - 39.2)

Distance Visual Impairment Race/Ethnicity Go

 **New York 2008**
 Percentage of Adults 40 Years and Older Reporting Distance Visual Impairment by Race/Ethnicity



[Save Chart](#)

[View all New York Indicators](#)
[View Indicator Summary](#)


New York 2008
 Percentage of Adults 40 Years and Older Reporting Distance Visual Impairment by Race/Ethnicity

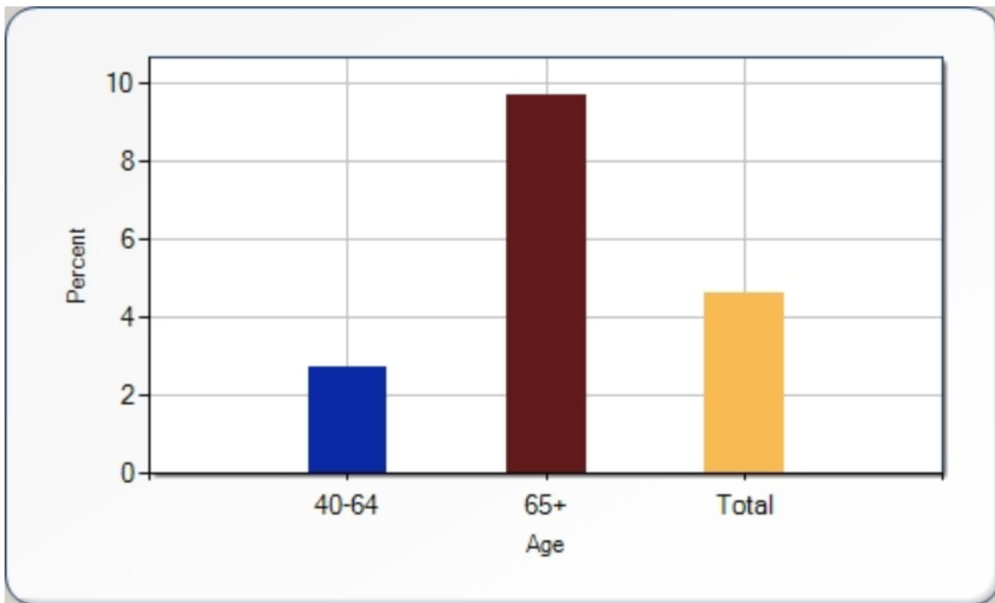
Year	Non-Hispanic White (95% CI)	Non-Hispanic Black (95% CI)	Hispanic (95% CI)	Other (95% CI)	Total (95% CI)
2008	15.7% (14.0 - 17.5)	21.6% (14.6 - 30.7)	25.8% (17.8 - 35.9)	14.8% (8.7 - 24.2)	16.7% (15.1 - 18.4)

Indicator
Age-related Macular Degeneration

View by
Age

Go

 **New York 2008**
Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Age



[Save Chart](#)

[View all New York Indicators](#)
[View Indicator Summary](#)


New York 2008
Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Age

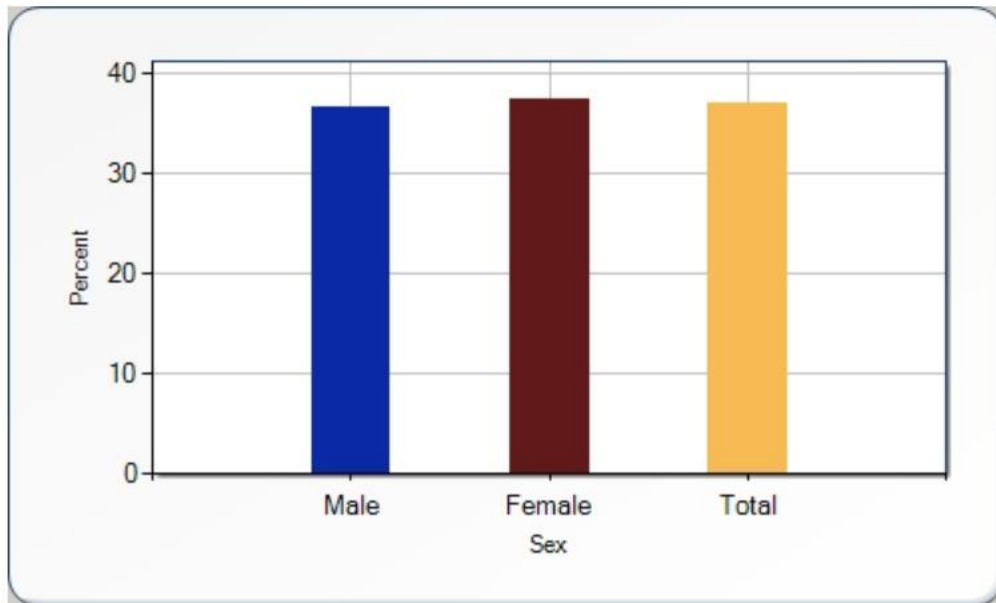
Year	40-64 years (95% CI)	65 years and older (95% CI)	Total (95% CI)
2008	2.8% (2.0 - 3.8)	9.7% (8.0 - 11.8)	4.7% (3.9 - 5.6)

Indicator
Near Visual Impairment

View by
Sex

Go

 **New York 2008**
Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Sex



[Save Chart](#)

[View all New York Indicators](#)
[View Indicator Summary](#)

New York 2008
Percentage of Adults 40 Years and Older Reporting Near Visual Impairment by Sex

Year	Males (95% CI)	Females (95% CI)	Total (95% CI)
2008	36.7% (33.4 - 40.1)	37.6% (35.0 - 40.2)	37.2% (35.1 - 39.3)

Thank you

For more information, please contact
John E. Crews, DPA
at Jcrews@cdc.gov
770 488 1116

<http://www.cdc.gov/visionhealth/>

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

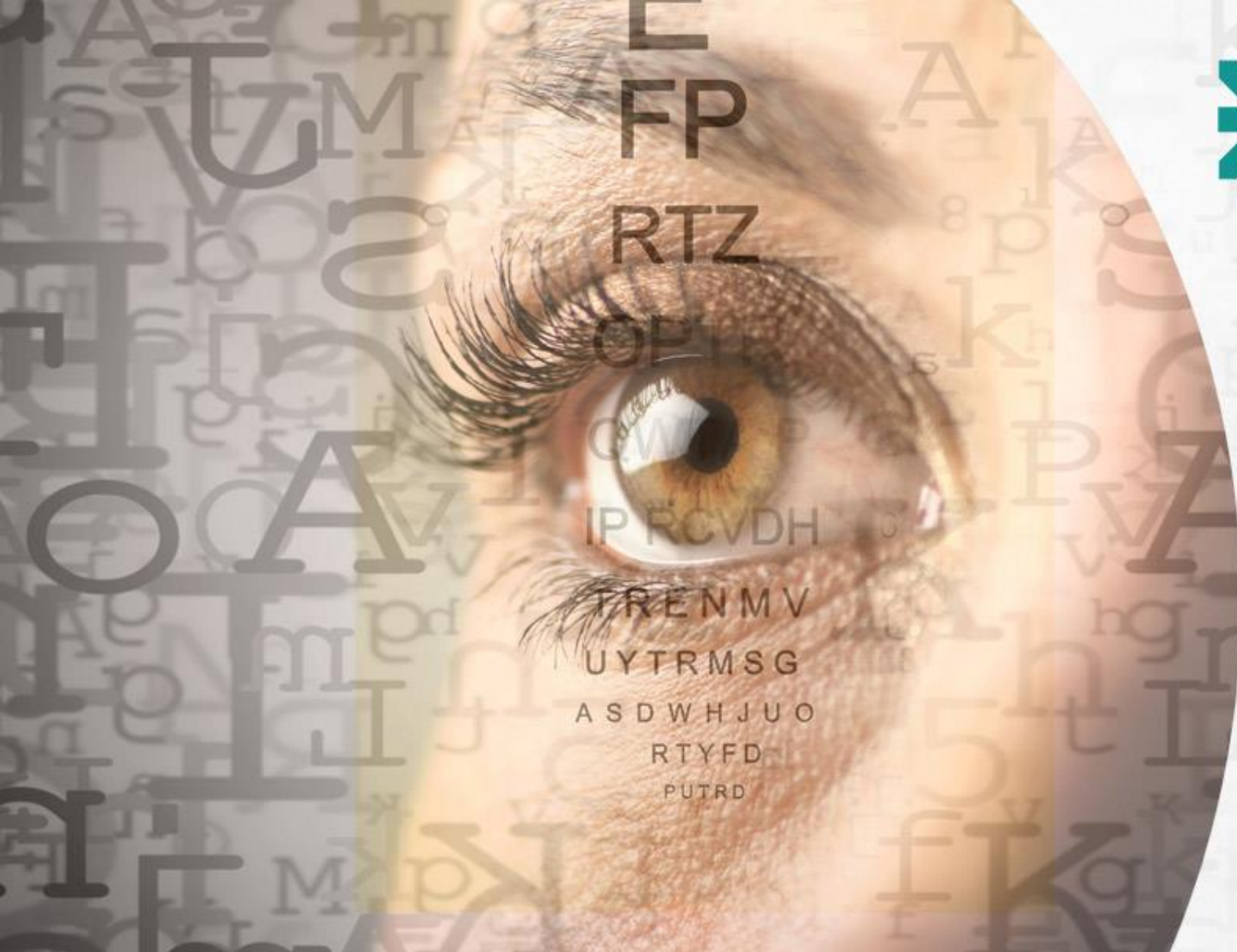
Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov Web: <http://www.cdc.gov>

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.







Our Vision Is Vision®

E
FP
RTZ
OP
IP FCVDH
TRENMV
UYTRMSG
ASDWHJUO
RTYFD
PUTRD