CDC’s Vision and Eye Health Surveillance System (VEHSS)

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Vision and Eye Health Surveillance System (VEHSS) developed through collaboration between CDC’s Vision Health Initiative (VHI) and NORC

Vision Health Initiative began in 2002

VHI located in CDC’s Division of Diabetes Translation

Mission: to promote vision health and quality of life for all populations throughout all life stages, by preventing and controlling eye disease, eye injury, and vision loss resulting in disability

https://www.cdc.gov/visionhealth/index.htm
Vision Health Initiative

- Effectiveness Research
- Public Health Programs & Policies
- Surveillance
Vision and Eye Health Surveillance System

- Performed an inventory of vision and eye health indicators in available datasets
- Created a framework to identify and organize vision and eye health indicators
- Established a single platform to summarize prevalence information from multiple data sources
10 datasets providing single-source prevalence estimates

- Nationally representative surveys
  - National Health and Nutrition Examination Survey (NHANES)
  - National Health Interview Survey (NHIS)
  - American Community Survey (ACS)
  - Behavioral Risk Factor Surveillance System (BRFSS)
  - National Survey of Children’s Health (NSCH)

- Administrative claims
  - Medicare 100% fee-for-service research identifiable files
  - Medicaid MAX
  - MarketScan commercial insurance
  - VSP Global managed vision care
Electronic Health Record Registry: IRIS® (Intelligent Research in Sight)

The 2016 American Academy of Ophthalmology IRIS® Registry (Intelligent Research in Sight) Database

Characteristics and Methods

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Purpose: To describe the characteristics of the patient population included in the 2016 IRIS® Registry database for analytic aims.

Design: Description of a clinical data registry.

Participants: The 2016 IRIS Registry database consists of 17,363,018 unique patients from 7,200 United States-based ophthalmologists in the United States.

Methods: Electronic health record (EHR) data were extracted from the participating practices and placed into a clinical database. The approach can be used across dozens of EHR systems.

https://www.aao.org/iris-registry
Over 200 vision and eye health indicators

- **Eye health conditions**
  - Self-reported
  - Measured
  - Claims-based diagnoses

- **Visual function**
  - Measured visual acuity
  - Self-reported visual function

- **Healthcare service utilization**
  - Eye exams
  - Medical treatments
  - Low vision services
  - Vision correction

https://www.cdc.gov/visionhealth/vehss/index.html
Prevalence estimates

- National
- State
- County

https://www.cdc.gov/visionhealth/vehss/index.html
Geographic Disparities: County-Level Surveillance Data

- Medicare claims
- American Community Survey
- Composite estimates of vision loss and blindness
Advanced statistical methods (Bayesian meta-analysis) to develop composite estimates of the prevalence of vision loss and blindness in the U.S.

Meta-regression performed on data from:
- Five population-based studies
- National Health and Nutrition Examination Survey (NHANES)
- National Survey of Children’s Health (NSCH)
- American Community Survey (ACS)
- 2010 U.S. Census data

*BCVA = best corrected visual acuity in better-seeing eye (assessed by ophthalmologist or autorefraction)
Findings

- 7.1 million people in the U.S. have vision loss
- 1.1 million of them are blind
- Vision loss or blindness prevalence was lowest in Maine (1.4%) and highest in West Virginia (3.6%)
Thank You

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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.