Significance of VEHSS Data in Informing Public Health Practice and Policy

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Public Health and Research Applications of the CDC's Vision and Eye Health Surveillance System (VEHSS) November 4, 2021

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01 Uses of Surveillance Data

02 Evaluating Health Disparities

03 Supporting Research

04 Next Steps for VEHSS





Uses of Surveillance Data



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- 1. Identifying newly emergent health problems
 - 2. Assessing the public health impact of problems
- 3. Identifying correlative risk factors for disease acquisition or progression
 - 4. Allocating resources and research investments



5. Evaluating the effectiveness and impact of interventions, policies, and strategies



6. Supporting research inquiries and scientific hypothesis generation.



1. Identifying newly emergent health problems

Explore VEHSS Data for National

➡ Share Link Data Portal



VEHSS has claims information for 17 categories and 96 subcategories of disorders, including "catch-all" categories to measure unspecified problems over time.

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2. Assessing the public health impact of problems



VEHSS is quite strong at providing information of the relative impact of vision loss and blindness at the state level.

$\stackrel{}{\longleftrightarrow} 3. Identifying correlative risk factors for disease acquisition or progression$



VEHSS can also be used to make county-level comparisons to identify possible correlations between conditions.



4. Allocating resources and research investments

Florida



A related VHI project, the Vision Loss Economic Explorer, provides information on the economic burden of vision loss or blindness, by state, age-group, sex, and component of cost.

5. Evaluating the effectiveness and impact of interventions, policies, and strategies



VEHSS Supports annual comparisons of self-reported vision outcomes nationally, by state, and by county via data download.



6. Supporting research inquiries and scientific hypothesis generation.

(COUNTY data filter) View based on VEHSS Prevalence Estimates - Visual Acuity Loss Vision & Eye Health					Download VEHSS Prevalence Estimates - × Visual Acuity Loss (County data filter) Download VEHSS Prevalence Estimates - Visual Acuity Loss (County data filter) for offline use in other applications.			
2017. This dataset contains estimates of the prevalence of visual acuity loss and visual Updated acuity blindness in the United States in 2017. These estimates are created using a Bayesian June 16, 2021								
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VEHSS supports research through queries and data exploration as well as offering options for direct data download via the Vision and Eye Health Data Portal.

Evaluating Health Disparities and Social Determinants of Health



Health Disparities and Social Determinants of Health are Complex

We know more about associations of SDoH and Vision, than causal mechanisms. Specifically, low vision is related to

- Poor access¹
- Low-socioeconomic status²
- Community factors ³
- Low utilization of eye care⁴
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- 6. Flaxman, A. D., Wittenborn, J. S., Robalik, T., Gulia, R., Gerzoff, R. B., Lundeen, E. A., Saaddine, and Rein. Eye Health Surveillance System study, g. (2021). Prevalence of Visual Acuity Loss or Blindness in the US: A Bayesian Meta-analysis. *JAMA Ophthalmol, 139*(7), 717-723. doi:10.1001/jamaophthalmol.2021.0527



How can VEHSS help us better understand the impact of SDoH on vision loss?



SURVEILLANCE CAN HELP US IDENTIFY DISPARITIES



State by state estimates of vision loss prevalence by race/ethnicity taken from the CDC's Vision and Eye Health Surveillance System



County level estimates of the prevalence of vision loss created by the CDC's Vision and Eye Health Surveillance System (VEHSS)



Prevalence of medical claims for injuries, burns, and surgical complications of the eye in 2018 Medicare fee-for-service by race/ethnicity and state taken from the CDC's Vision and Eye Health Surveillance System. VEHSS contains detailed information on 18 categories of eye conditions for Medicare, Medicaid, and commercial insurance plans.

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Percent of children in Medicaid with claims for vision screening by reporting state, taken from the CDC's Vision and Eye Health Surveillance System. Updated Medicaid data coming to VEHSS soon.

Year

Yes

Gender

Risk Factor

All participants

Risk factor response

Explore VEHSS Data for National Anter Share Link Data Po Percentage of people who are blind or have serious difficulty seeing even when wearing glasses O View one year Response: Yes • View all available years National | All Available Years | ACS Compare variable 1 **Crude Prevalence** 0-17 years Compare By: Race/Ethnicity Compare variable 2 1.5 Race/Ethnicity ٥ Compare Reset **Apply Filters** 10 Percent (%) **Compare All** 2018 All races Response 0.77% 95% CI (0.74 - 0.79) N = 73,272,900 0.5 Age Group 0-17 years All genders \$ 0.0 r 2015 2016 2017 2014 2018 Race/Ethnicity **Compare All** Race/Ethnicity

Percent of children who report serious difficulty seeing even when wearing glasses from the American Community Survey, by race/ethnicity and year. Taken from the CDC's Vision and Eye Health Surveillance System.

All races

Black, non-Hispanic Hispanic, any race North American Native

Asian

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Supporting Research



SURVEILLANCE IS A NON-RIVAL GOOD

- VEHSS is a non-rival good meaning that the more people who use it, the greater the public benefits.
- VEHSS is a tool to support independent inquiries and research.
- Explore VEHSS and see how it can help your work.





VEHSS CAN SUPPORT YOUR RESEARCH

Outcome information

- · State and county level estimates of vision loss or blindness.
- Diagnosed prevalence of 17 categories, and 96 subcategories of eye disorders.
- State or county estimates can be merged by state and county FIPS code with data from other sources such as the American Community Survey.

Supporting comparisons

All data are analyzed using consistent age-group, sex, and race/ethnicity categories supporting the comparison of estimates across sources of information.

Documentation

• Summaries of population-based study data, methodological reports, diagnostic code categorization.

Economic impacts

- Website with of vision loss and blindness
- · Paper with Medicare Fee-For-Service costs associated with diagnosed eye disorders.

Forthcoming research

- Additional composite estimates of AMD, Diabetic Retinopathy, and Glaucoma Prevalence
- Validity of included VEHSS measures in measuring evaluated vision loss and eye disease.
- Impact of SDoH on evaluated and self-reported vision loss

VEHSS

Vision Loss Economic Explorer



https://www.cdc.gov/visionhealth/vehss



cdc.gov/visionhealth/economics

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Next Steps for VEHSS



Improvements in Information and navigation

T	Vision Loss Economic Explorer (November 2021)	https://www.cdc.gov/visionhealth/data/
N	Additional composite prevalence indicator validity information (20	e estimates and VEHSS 22)
Ä	Improved navigation to support data discovery (Spring, 2022)	Search by condition instead of data set
9 .6 7	Increased integration of social determinants of health (2023)	Research currently underway
Ş	Your ideas for system improvement	Use the system and share your ideas with us

Thank you.

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+ Research You Can Trust"

