NHANES 1999–2000 Data Release
Revised February 2005
MEC Examination (VIX)

Description

The NHANES data will be used to: 1) measure the prevalence of visual acuity impairment in the U.S. population (visual acuity worse than 20/40); 2) measure the distribution of refractive error in the U.S. population; and 3) evaluate functional impairment related to vision.

Eligible Sample and Component-Specific Exclusions

All sample persons aged 12+ years were eligible to participate in the refraction exam. The protocol included: measuring the eyeglass prescription in people who wore glasses for distance; testing the presenting distance visual acuity of sample persons with their usual correction (glasses/contacts or none); obtaining an objective refraction (incorporating also an evaluation of the corneal curvature of the eye); and, for sample persons whose presenting distance acuity was 20/30 or worse, distance visual acuity after objective refraction. In addition, a visual acuity at near was assessed only on persons 50 years and over.

Participants who were determined to be completely blind or unable to see in both eyes as well as sample persons with a severe infection (i.e., purulent discharge with redness and inflammation) in one or both eyes were excluded from this exam.

Examination Protocol

The vision exam included measurements of: 1) eyeglass prescription for glasses used to view distant objects, 2) presenting visual acuity with current correction, 3) objective refraction, 4) visual acuity incorporating objective refraction, and 5) near vision acuity.

Screening questions were asked of all participants age 12 years and older. If the sample person wore eyeglasses to see distant objects, current eyeglass prescription was determined using a lensmeter. Presenting visual acuity was tested with current correction, if any. Objective refraction and corneal curvature data were obtained by averaging three autoretinoscopy measurements. Visual acuity with objective refraction is assessed only on sample persons whose initial, presenting visual acuity was 20/30 or worse. For sample persons aged 50 years and older, near vision was tested with a near-vision card and usual reading distance was recorded prior to measuring their presenting distance visual acuity.

Survey Staff

The MEC health technicians conducted the vision examination. These technicians received 8 weeks of training initially and subsequently underwent updates and remedial training as

needed. Technicians referred to the Vision Procedures Manual for specific instructions for the administration of this component.

Data Collection Forms

Two screening questions were completed by the health technician and involved observation of the subject to determine if the medical exclusion criteria apply. The sample person was then asked additional screening questions (e.g. do they wear any distance correction) to determine which measurements in the examination protocol were relevant.

Quality Control Procedures

A variety of quality control procedures were used to ensure the accurate and reliable collection of vision data. Calibrations of the lensmeter and the autorefractor were performed prior to conducting examinations at each survey location, and weekly thereafter. At regular intervals, NCHS and contractor staffs observed vision examinations conducted in the MEC to evaluate whether appropriate procedures and techniques were being followed. Retraining sessions were conducted with all MEC health technicians to review data collection procedures.

Data Processing and Preparation

Automated data collection procedures for the survey were used to collect the vision data. Eyeglass prescription data were captured electronically by the lensmeter, and the objective refraction and visual acuity data were captured by the autorefractor. Both sets of data were then transferred to the survey database system. Visual acuity data values were also captured by the technician and entered directly into the database.

Analytic Notes

Users are encouraged to carefully note the English instructions describing the various variables in the codebook documentation.

Special Notes about this Dataset

This dataset only contains data for the vision examination conducted in the MEC. There is another dataset containing household interview responses to the vision section (VIQ) of the Sample Person Questionnaire. Data from the two datasets can be combined and analyzed using the guidelines provided by NCHS. Note that not all of the same persons appear in the household interview and MEC examination datasets.

References

N/A