

**Blood Pressure Section of the Physician's Examination (June 2002)  
MEC Examination**

**Description**

To support public health program in the control and prevention of CVD, heart rate is measured on all children 0-4 years of age; radial pulse is measured on examinees 5 years and older; and blood pressure (BP) is measured on all examinees 8 years and over.

**Exclusion Criteria**

There are no exclusion criteria.

**Data Collection Methods**

Three and sometimes 4 BP determinations (systolic and diastolic) are taken in the mobile examination center (MEC) and during home examinations on all eligible individuals using a mercury sphygmomanometer.

Participants who are 50 years and older or less than one year of age who are unable to travel to the MEC are offered an abbreviated examination in their homes. Blood pressure measurements are taken by one of the MEC examiners.

**Examination Protocol**

The technique used to obtain BP follows the latest recommendations of the American Heart Association Human Blood Pressure Determination by sphygmomanometers (1).

**Survey Staff**

Two physicians (MEC setting) and 2 health technologists (Home Examination setting) are trained to collect NHANES BP data using a standardized protocol.

**Quality Control Procedures**

The quality control procedure includes the following elements: initial extensive training; quarterly re-certification by an expert consultant during field visits; a quality assurance plan including a procedural checklist; and continuous review of the data for systematic error.

The first recertification for the blood pressure component was conducted six months after the start of NHANES 1999; quarterly recertification training has been conducted since that time.

Please refer to the NHANES Quality Control Manual for more detailed information about the blood pressure protocol.

## **Data Processing/Preparation Steps**

BP determinations are recorded directly onto a computerized data collection form. The system is centrally integrated and it allows for ongoing monitoring of the data

## **Analytic Notes**

The variables BPXSAR and BPXDAR represent blood pressure results that were reported to the examinee. They do not represent traditional averages. These variables were calculated using the following protocol:

If only one blood pressure reading was obtained, that reading is the average.  
If there is more than one blood pressure reading, the first reading is always excluded from the average.

If only two blood pressure readings were obtained, the second blood pressure reading is the average.

If all diastolic readings were zero, then the average would be zero.

Exception: If there is one diastolic reading of zero and one (or more) with a number above zero, the diastolic reading with zero is not used to calculate the diastolic average.

If two out of three diastolic readings are zero, the one diastolic reading that is not zero is used to calculate the diastolic average.

## **Reference**

Perloff. D. Grim. Carlene. G. Flack J. et al. Human blood pressure determination by sphygmomanometry. *Circulation*.1993;88:2460-2469