National Health and Nutrition Examination Survey (NHANES) Blood Pressure Cuff Comparability Study

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Blood Pressure Cuff Comparability Study (adults):

<u>Eligibility</u>: Adult sample persons are eligible for this study. The maximum number of respondents would be 136.

<u>Informed Consent</u>: Written informed consent will be obtained at the study site.

Exclusion Criteria: The exclusions for this study are as follows.

- Presence of the following on both arms: rashes, gauze dressings, casts, edema, paralysis, tubes, open sores or wounds, withered arms, a-v shunts, or if blood has been drawn from arm within last week.
- Being pregnant or being diabetic
- Arm circumference exceeding the upper limit parameter of 50 cm.
- Not being able to perform blood pressure on both arms

<u>Data Collection</u>: This study will be conducted by NHANES staff using the Johns Hopkins University ProHealth facility located in Baltimore, MD. NHANES has partnered with this organization because they have existing examination space and a pool of volunteers to recruit from. While NHANES staff will conduct the study, Johns Hopkins Pro Health staff will do the recruiting and informed consent participants. Participants will be volunteers who are not part of the regular NHANES sample.

Participants will take part in two separate scenarios for the study. In one scenario of the study, two identical Omron HEM-907 XL machines will be used to take blood pressure using the standard Omron cuff. Three measurements per machine will be taken. In the other scenario,

two Omron machines will also be used. However, one Omron HEM-907 XL will be connected to the standard Omron cuff. The other Omron HEM-907 XL will be connected to a Baumanometer cuff. Again three measurements will be taken per device.

Because we are evaluating 4 cuff sizes we need 34 subjects per cuff size. The sample size calculation was based on a power of 0.8, Type I error of 0.5, standard deviation of 2 to detect a 1 mm Hg difference in BP. This would be a sample size of 34 per cuff yielding 136 participants total.

<u>Report of Findings:</u> Blood pressure results from this feasibility study will be reported to participants.