Introduction

- Self-reported biometric values, such as blood pressure (BP), have been proposed as an efficient strategy for monitoring clinical care, evaluating health system performance, and conducting pragmatic randomized trials.
- There is limited evidence about whether self-reported biometric readings are accurate and, if so, whether their accuracy is predicted by readily identifiable patient characteristics.

Objective

- Using data from the ongoing Medication adherence Improvement Support App For Engagement – Blood Pressure (MedISAFE-BP) study, the concordance of self-reported BP > 140mmHg systolic was compared to measured BP > 140mmHg.

Methods

- Subjects were recruited through online patient communities, social media, and targeted advertisements; those who indicated their BP was poorly controlled while on medication underwent further screening.
- Subjects were then mailed a home BP cuff to verify their self-reported blood pressure. We evaluated the positive predictive value of self-reported poorly controlled hypertension using the measured BP readings. We then used multivariable logistic regression to identify predictors of having a measured BP value that was actually poorly controlled.

Results

- 1,142 individuals self-reported poorly controlled BP.
- The positive predictive value of poorly-controlled BP by self-report was only 37%; with 284 (24%) subjects having systolic BPs that were normal (systolic BP < 120 mmHg).
- Factors that were independently associated with accurate self-report included older age (odds ratio [OR] 1.3 per decade, 95% confidence interval [CI] 1.2-1.5), a history of prior stroke (OR 2.5, CI 1.2-5.2), diabetes mellitus (OR 1.5, CI 1.1-2.2), and a low level of activation (OR 1.63, CI 1.2-2.2).
- Hypertension knowledge, education, and self-reported adherence were not associated with accurately self-reporting BP.

Discussion

- In this cohort of individuals who reported that their BP was poorly control, only one-third actually had elevated BP when measured with a home BP cuff.
- While this discrepancy may have many underlying causes, it suggests that the use of self-reported BPs is not an accurate method of monitoring hypertension control at the population level.
- Reassuringly, several factors are independently associated with accurate self-reported BPs, and thus there may be some subgroups for whom self-report can be relied upon.