OHIO STATE MEDICAL ASSOCIATION HOUSE OF DELEGATES

Resolution No. 52 – 2025

Introduced by: Medical Student Section

Subject: Supporting the Integration of Blood Pressure Variability Data in Electronic Medical Records

Referred to: Resolutions Committee No. 2

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WHEREAS, blood pressure variability (BPV) refers to the dynamic and continuous fluctuations in blood pressure that occur over different time frames, ranging from seconds to years, and is influenced by factors such as environmental conditions, physical activities, emotional states, and the body's cardiovascular regulatory systems, which work to ensure proper blood flow to organs[1]; and

WHEREAS, despite growing recognition of BPV as an important cardiovascular risk factor by major medical journals and healthcare entities including the American Heart Association and Lancet, the lack of established thresholds to differentiate normal from pathological BPV and limited clinical data have delayed its inclusion in standardized management guidelines as a therapeutic target[2-3]; and

WHEREAS, a study conducted on a cohort of 221,803 adults found that 1/3 of hypertensive and 1/6 of normotensive patients had high BPV[4]; and

WHEREAS, blood pressure variability has a prognostic value comparable to cholesterol levels in predicting cardiovascular disease, with hazard ratios for BPV similar to those observed for cholesterol measures[5]; and

WHEREAS, long-term blood pressure variability is associated with an 18% increased risk of cardiovascular mortality, an increased risk of macrovascular and microvascular events, and a 15% higher risk of all-cause mortality, independent of mean blood pressure levels[5-6]; and

WHEREAS, among patients with an average systolic blood pressure under 140 mmHg, patients with a higher BPV were found to have a 16% increased risk of heart attack, stroke, and other cardiovascular events when compared to those with lower BPV[7]; and

WHEREAS, studies suggest that BPV is similarly predictive of adverse outcomes across varying patient populations including those with hypertension, hypotension, and those taking antihypertensive medications[8]; and

WHEREAS, higher blood pressure variability was associated with increased risk of recurrent ischemic stroke, major cardiovascular events, and all cause death, and that increased systolic BPV after hemorrhagic stroke was associated with worse functional outcomes[9]; and

WHEREAS, diastolic blood pressure variability (DBPV) independently predicted worse clinical outcomes in regards to death from cardiovascular causes, acute coronary syndrome (ACS), acute decompensated heart failure, coronary revascularization, atrial fibrillation, and stroke[10]; and

WHEREAS, DBPV is associated with increased risk for readmission and wound infection and should, therefore, be factored into pre surgical risk assessment[11]; and

WHEREAS, although an effective medical treatment for BPV has not yet been established, patients can reduce their risk of BPV-related complications by making lifestyle modifications, including adopting a healthy diet to reduce obesity, smoking cessation, engaging in aerobic and resistance training, and getting an adequate amount of quality sleep[12-14]; and

WHEREAS, BPV can be manually estimated by taking the greatest change between two consecutive blood pressure measurements making it a reasonable and immediate tool for incorporation into clinical practice until automated solutions become available[11]; and

WHEREAS, other studies have demonstrated that BPV can feasibly be determined through automatic calculations within an EMR and that these visit-to-visit variations are associated with mortality in diverse populations at high risk of developing coronary artery disease [15]; and therefore be it

RESOLVED, that our OSMA support the integration of blood pressure variability data into electronic medical records, with a focus on automated calculation capabilities similar to those established for body mass index; and be it further

RESOLVED, that our OSMA support research efforts to establish a pathological BPV threshold that could guide dietary and exercise recommendations, sleep evaluation, risk stratification, and other evidence-based interventions by healthcare providers; and be it further

RESOLVED, that our OSMA encourages healthcare providers to incorporate blood pressure variability into their clinical decision making.

Fiscal Note: $ (Sponsor)
$ 500+(Staff)

References:

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Relevant OSMA Policy:
None
https://osma.org/aws/OSMA/pt/sp/policy-compendium

Relevant AMA and AMA-MSS Policy:
None